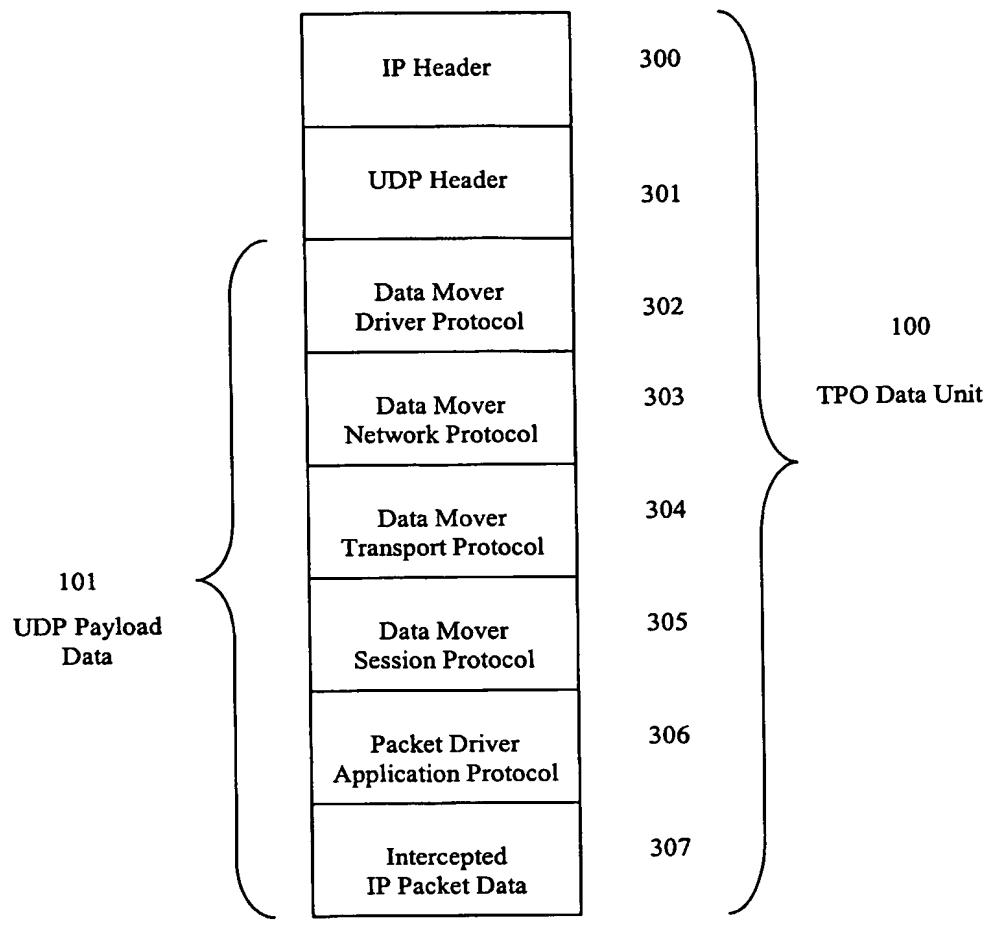


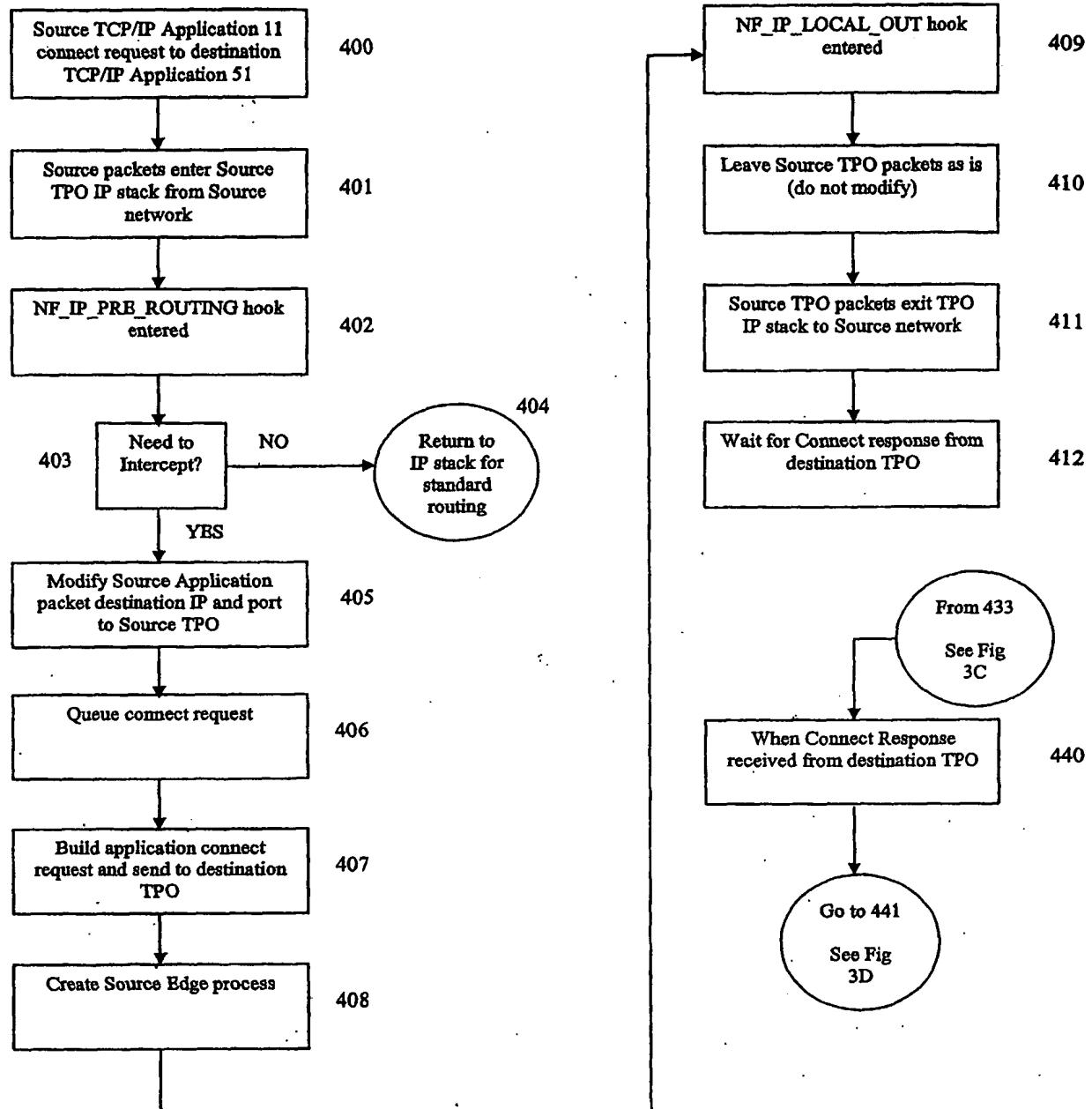
Transport Protocol Optimizer Configuration

FIGURE 1D.



Transport Protocol Optimizer Data Unit

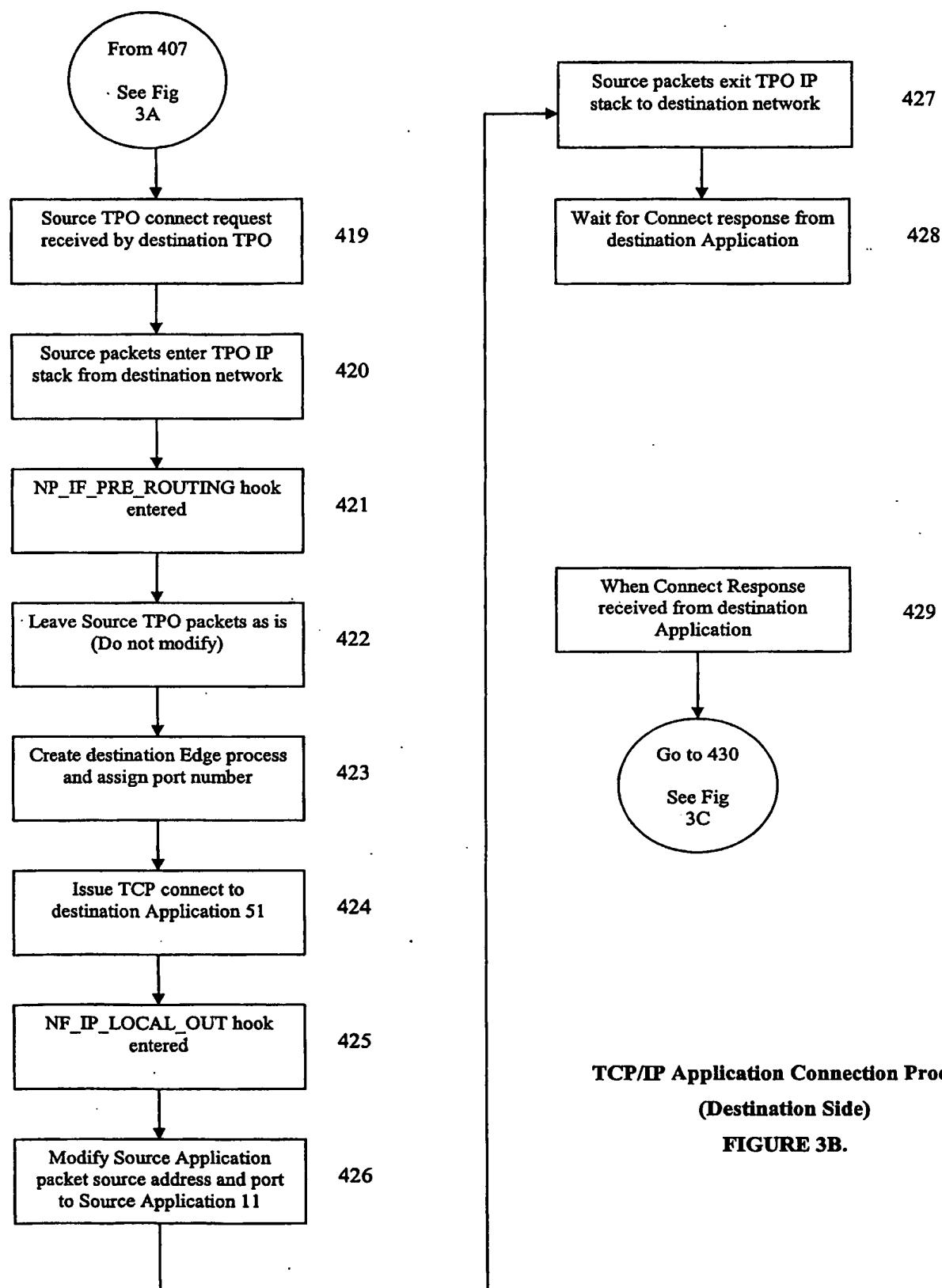
FIGURE 2.



TCP/IP Application Connection Process

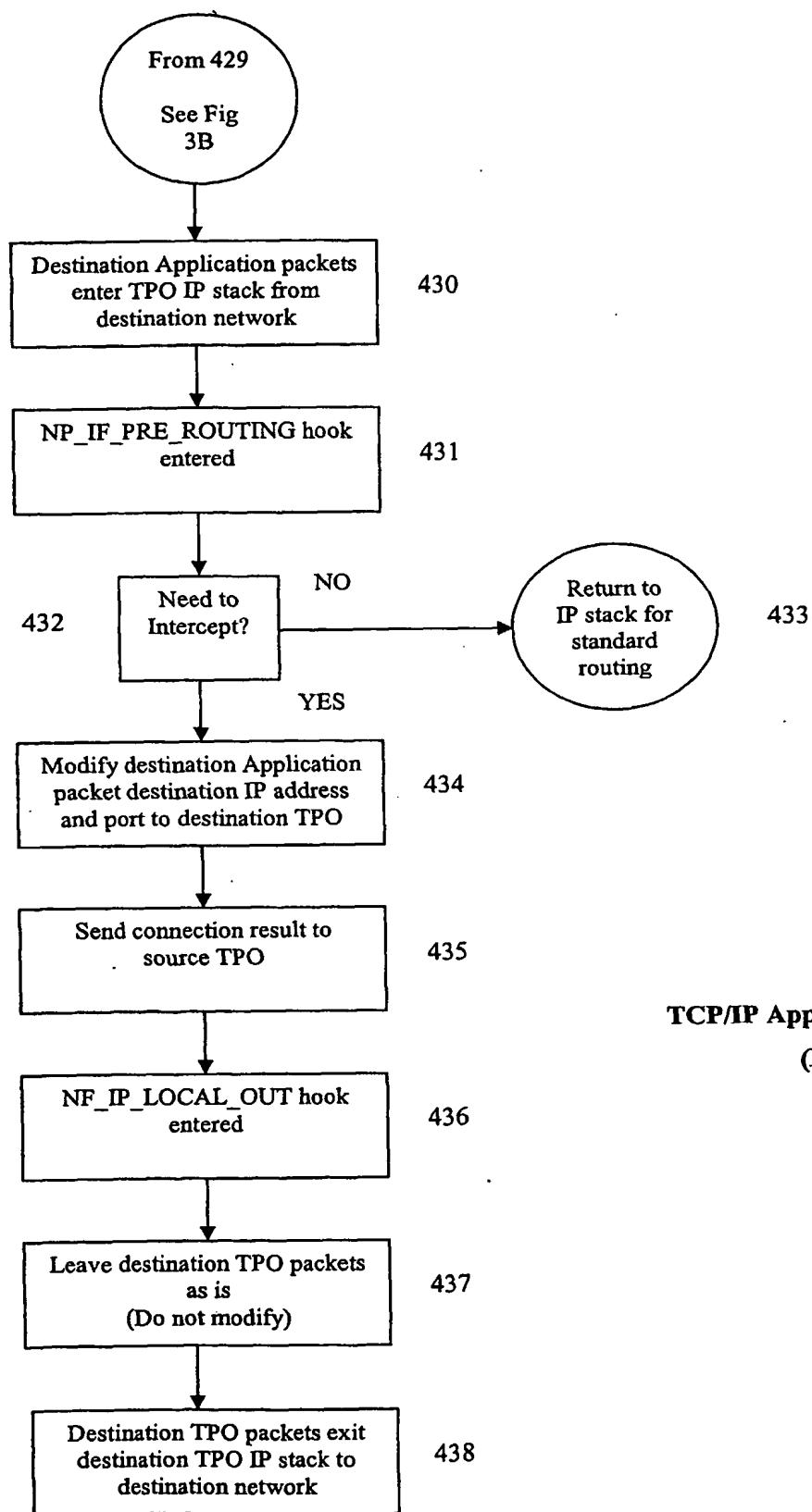
(Source Side)

FIGURE 3A.



**TCP/IP Application Connection Process
(Destination Side)**

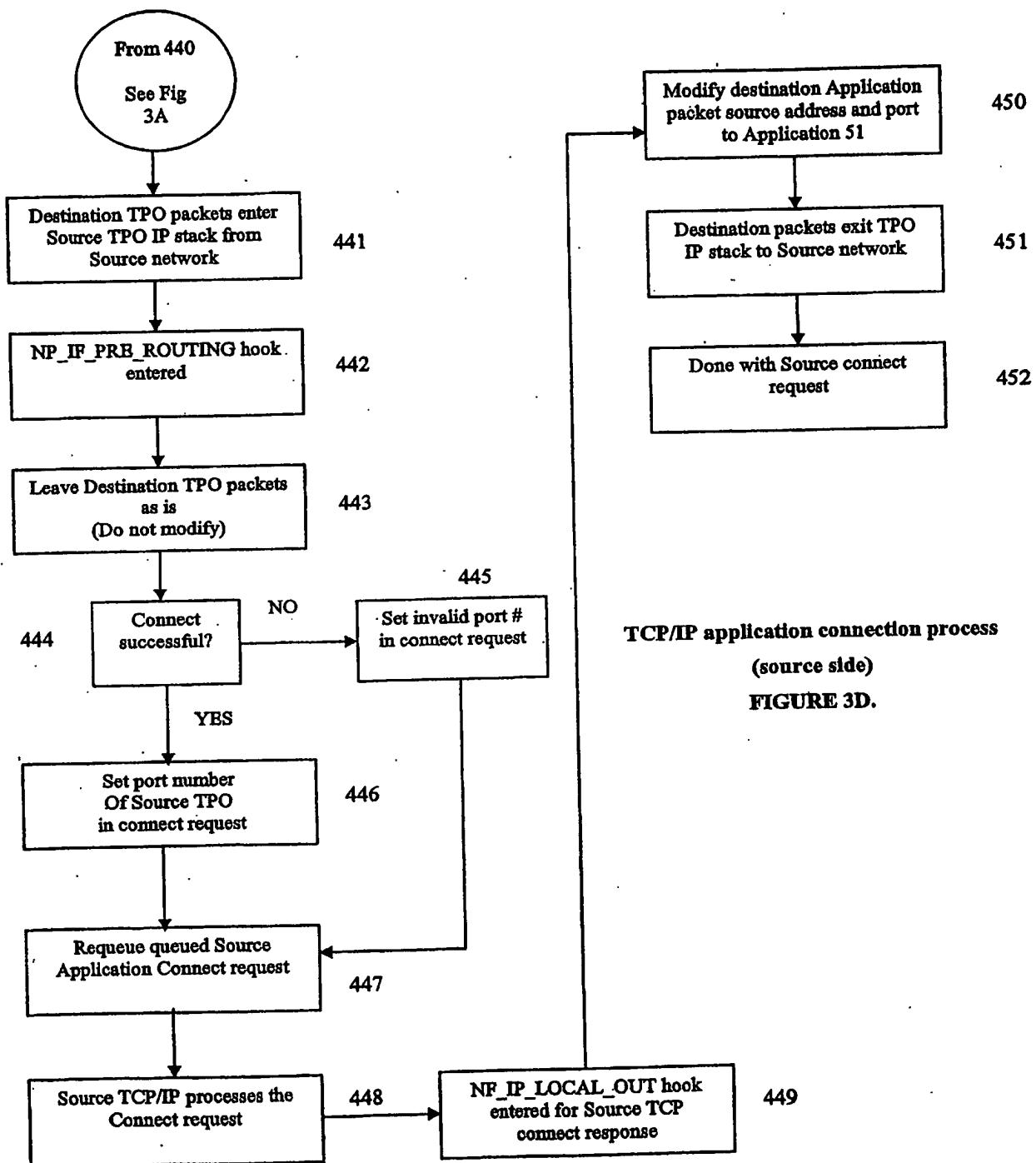
FIGURE 3B.

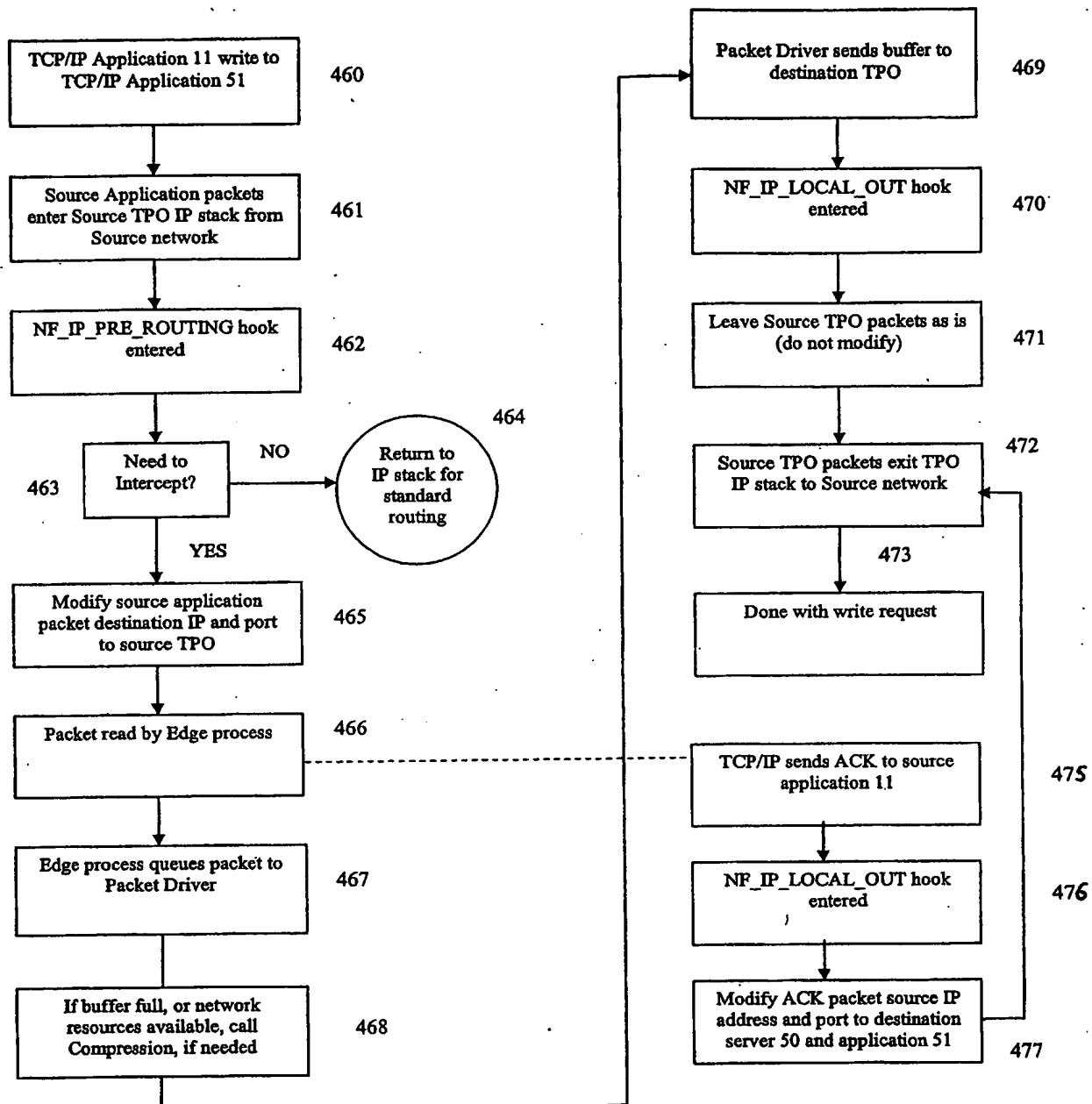


TCP/IP Application Connection Process

(Destination Side)

FIGURE 3C.

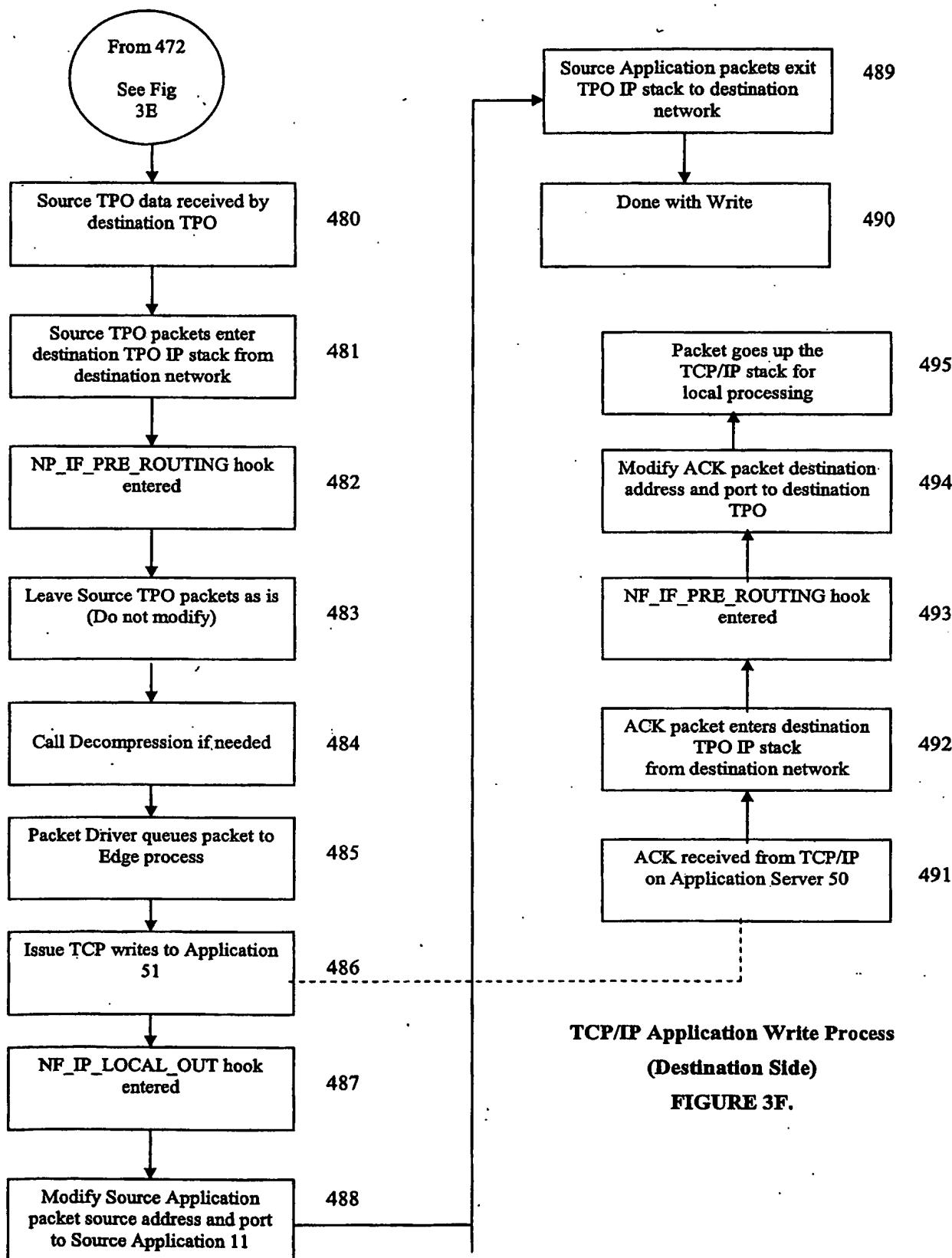




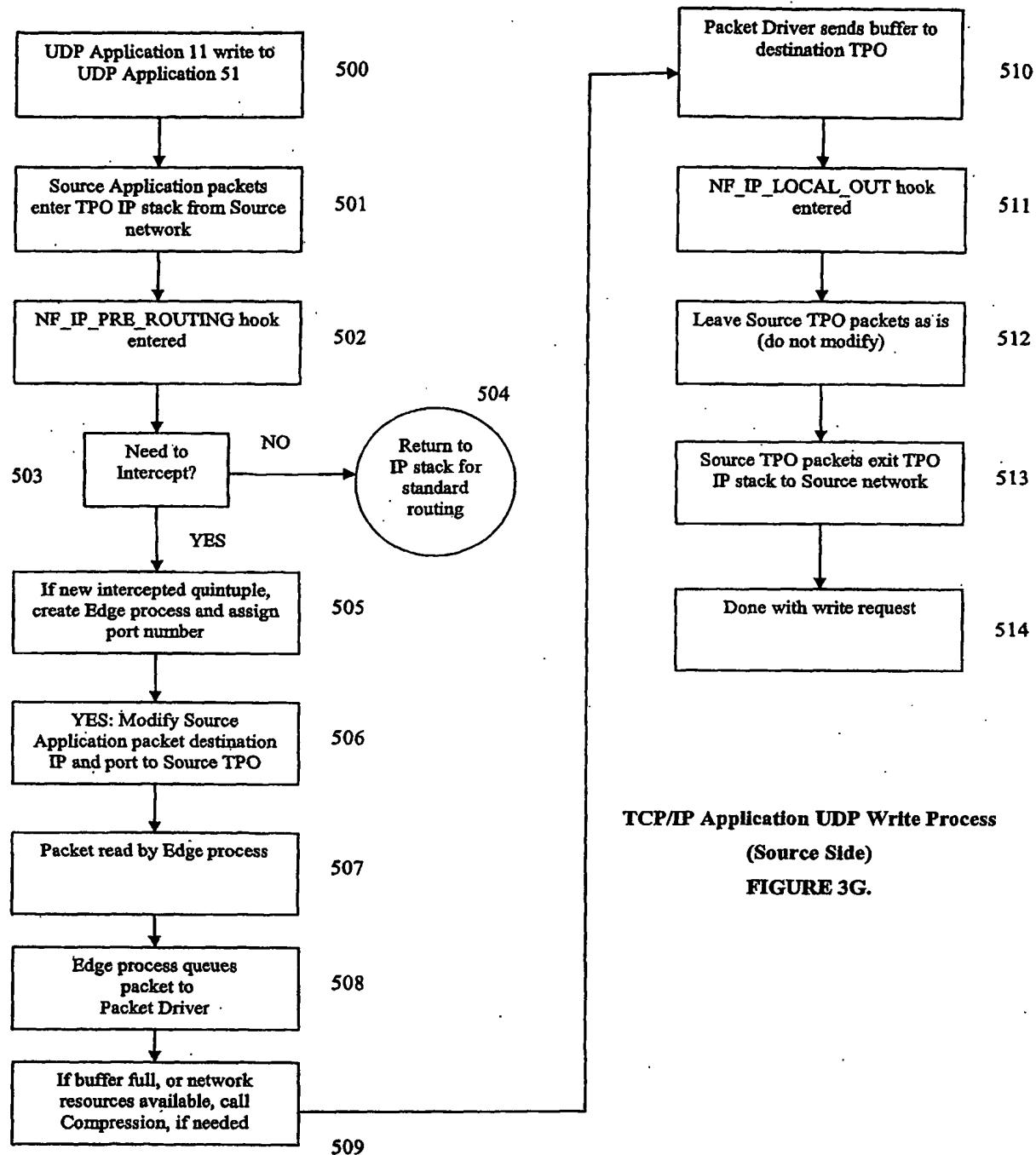
TCP/IP Application Write Process

(Source Side)

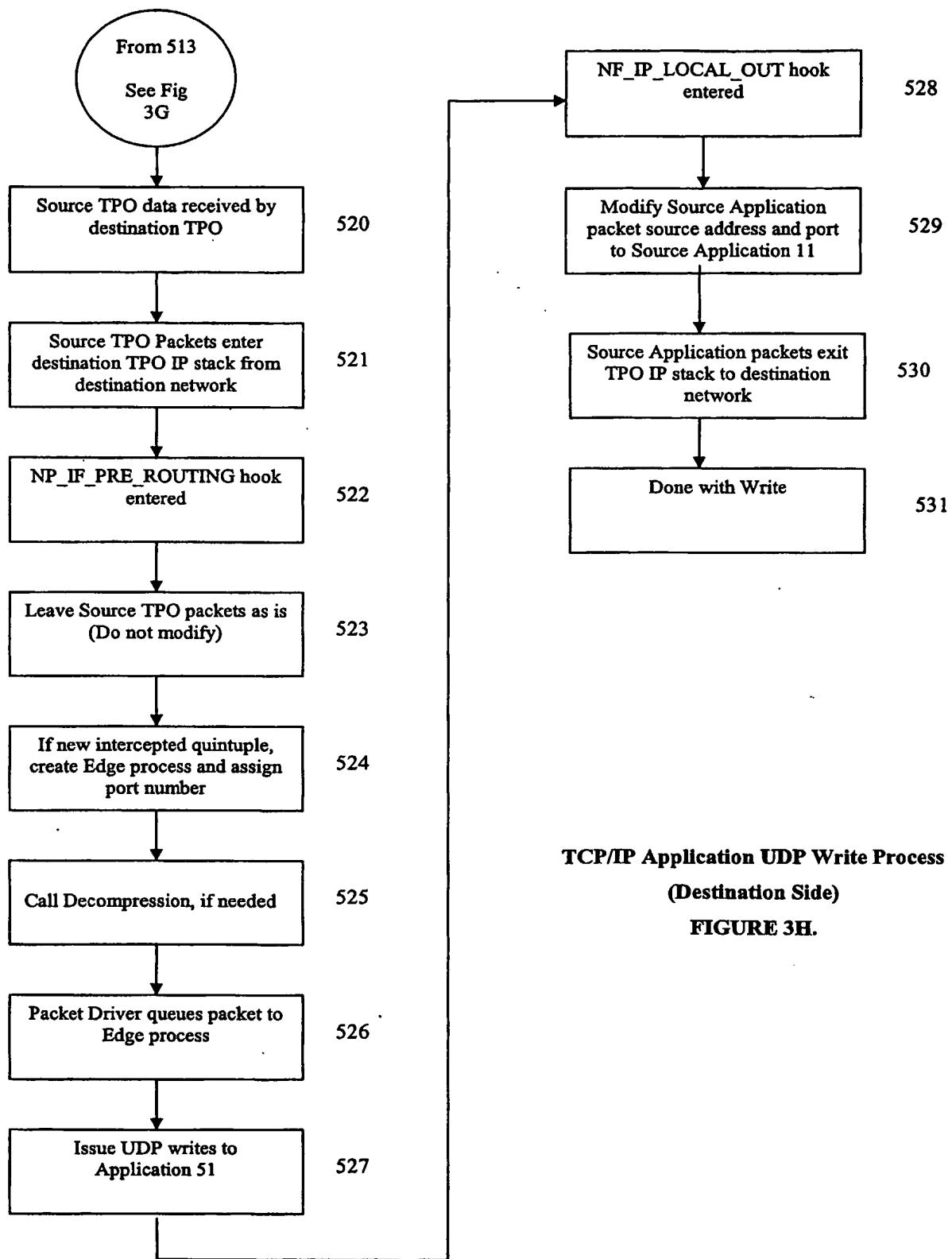
FIGURE 3E.



**TCP/IP Application Write Process
(Destination Side)**
FIGURE 3F.



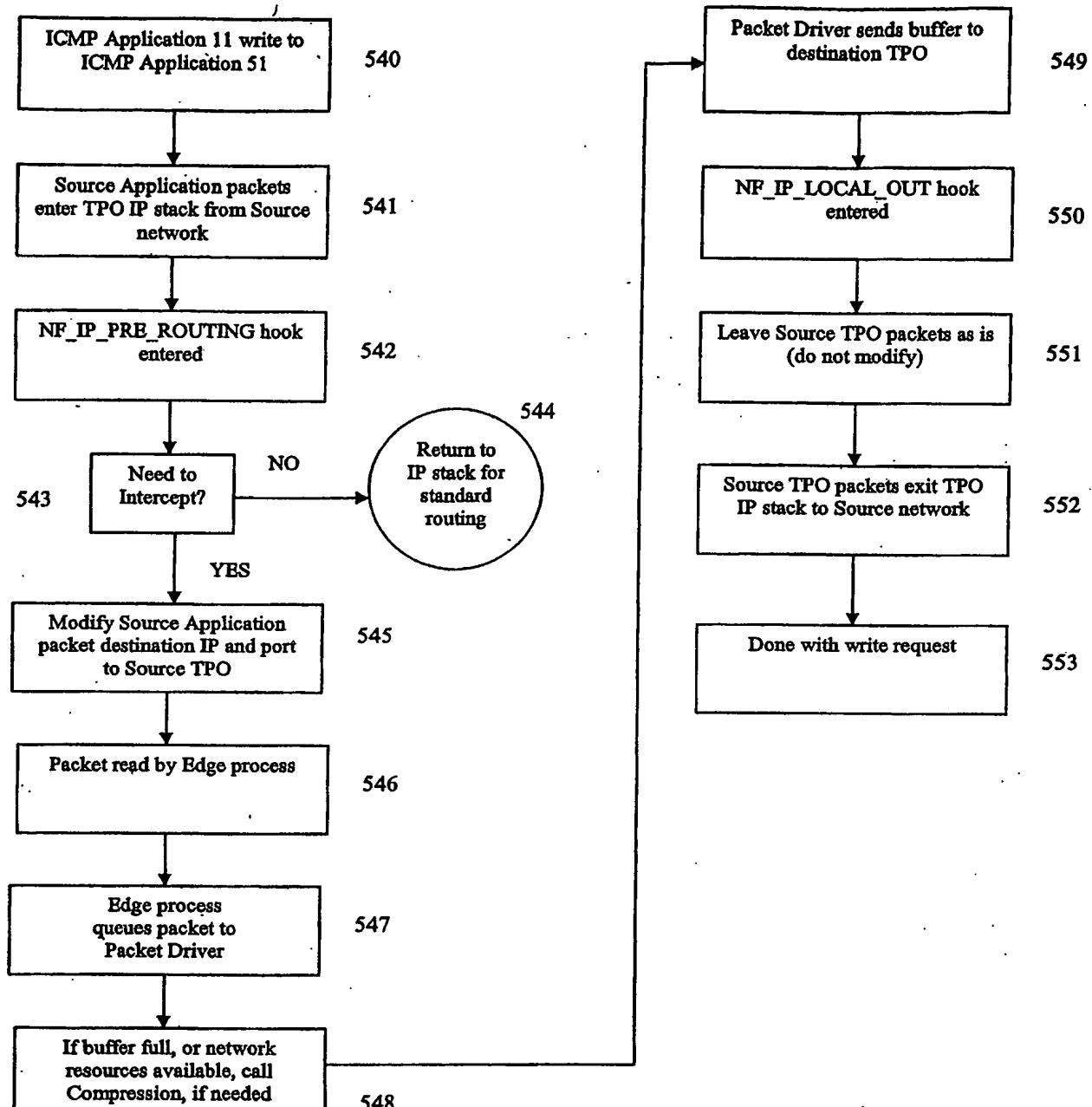
**TCP/IP Application UDP Write Process
(Source Side)**
FIGURE 3G.



TCP/IP Application UDP Write Process

(Destination Side)

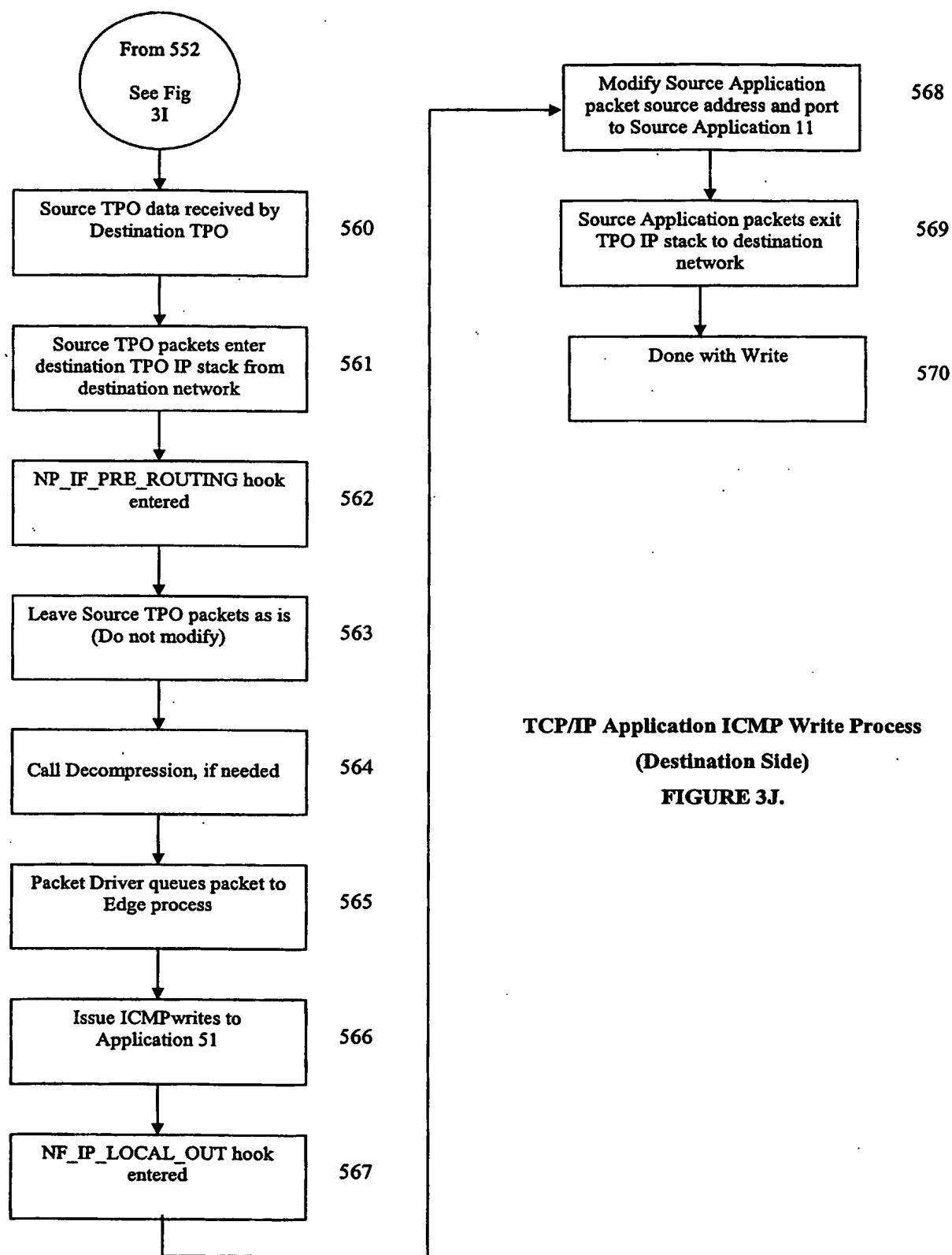
FIGURE 3H.



TCP/IP Application ICMP Write Process

(Source Side)

FIGURE 3L



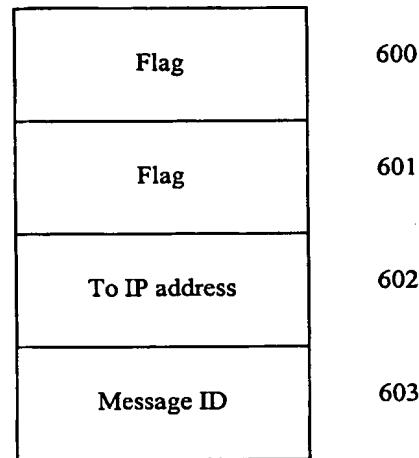
TCP/IP Application ICMP Write Process

(Destination Side)

FIGURE 3J.

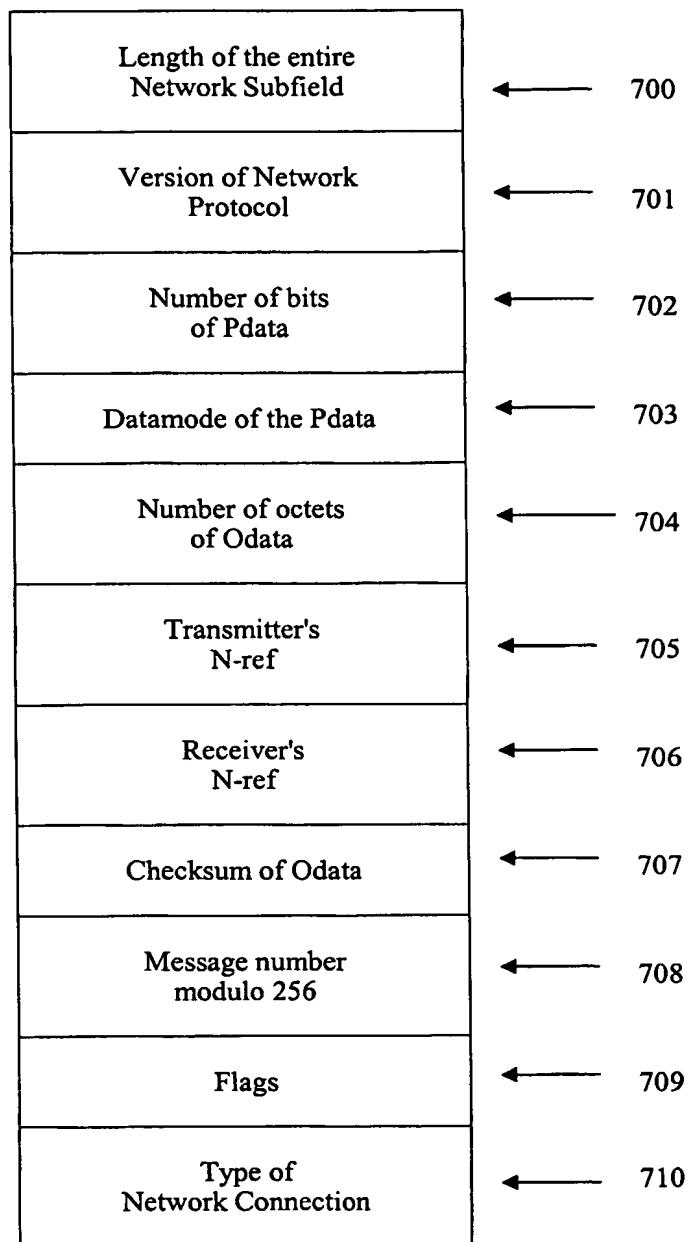
NRBSTAT: Status code	1300
NRBIND: Data type indication	1301
NRBLEN: Length of data	1302
NRBREQ: Request type	1303
NRBNREF: Connection Reference Number	1304
NRBBUFA: Buffer Address	1305
NRBBUFL: Buffer Length	1306
NRBDMODE: Datamode	1307
NRBTIME: Timeout value	1308
NRBCLASS: Class of service	1309
NRBMXRAT: Maximum data rate	1310
NRBBLKI: Maximum input buffer size	1311
NRBBLKO: Maximum output buffer size	1312
NRBPROTA: Address of protocol data	1313
NRBPROTL: Length of protocol data	1314
NRBCONN1: Connect application name	1315
NRBCONN2: Connect host name	1316

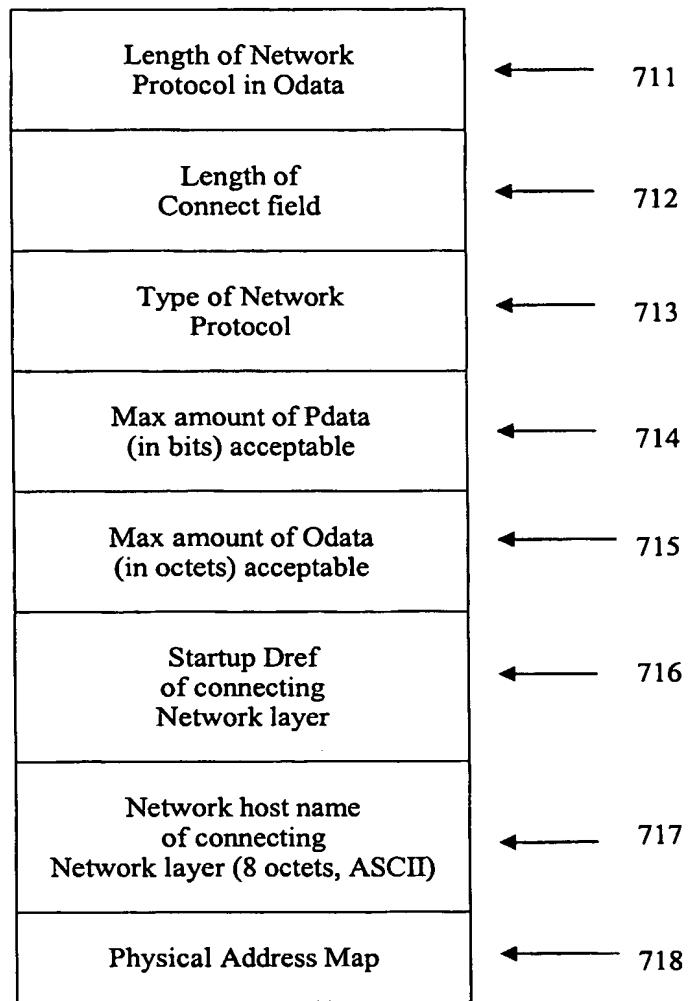
Data Mover Network Request Block Structure**FIGURE 4.**



Data Mover Driver Protocol Data

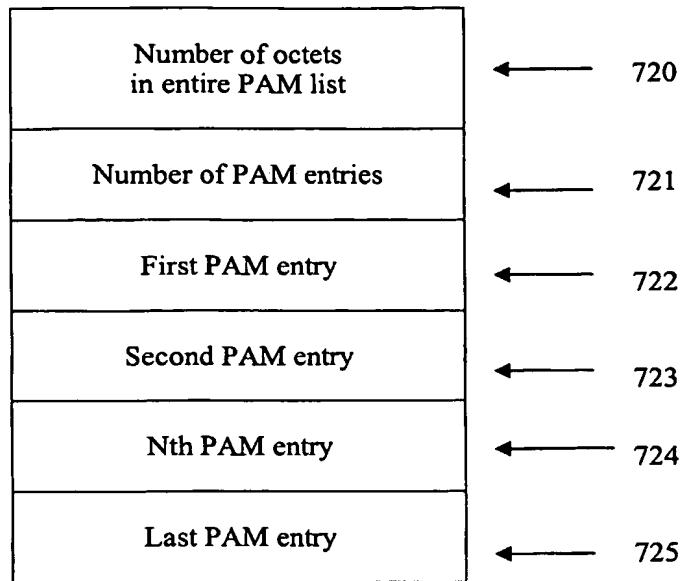
FIGURE 5.

**Data Mover Network Message Header****FIGURE 6A.**



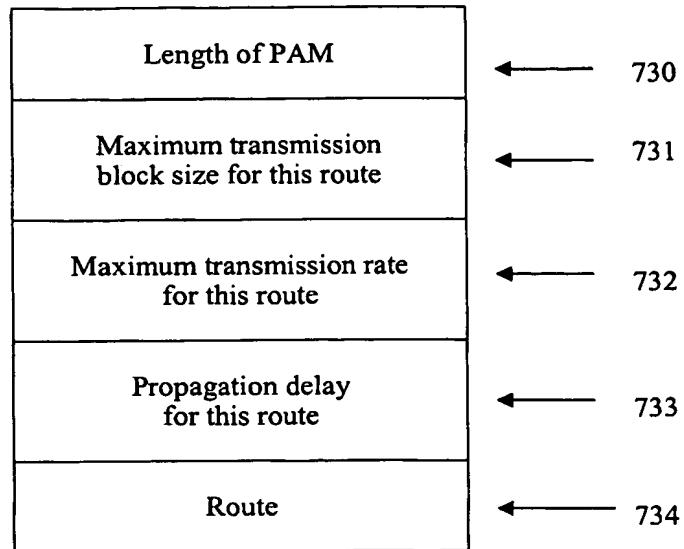
Data Mover Network Connect / Confirm Protocol Data

FIGURE 6B.



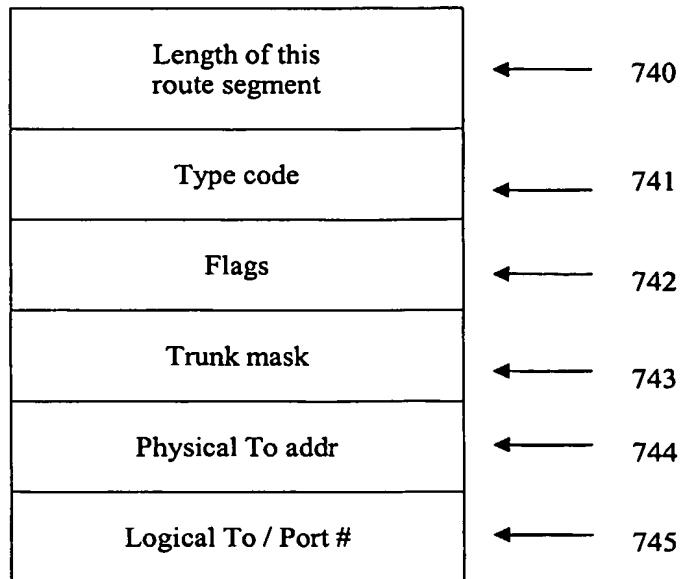
Data Mover Physical Address Map List

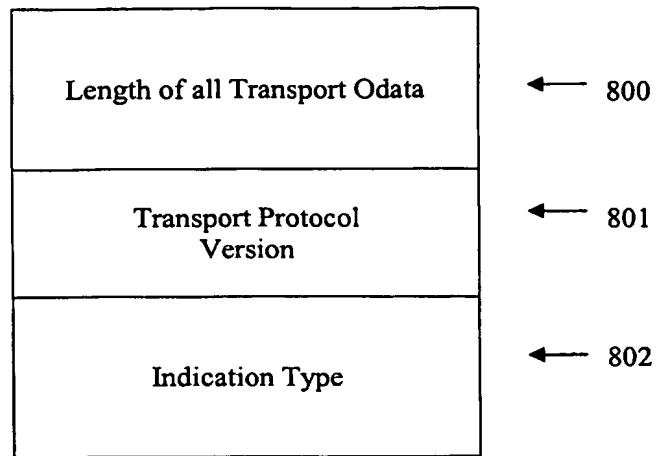
FIGURE 6C.



Data Mover Physical Address Map Entry

FIGURE 6D.

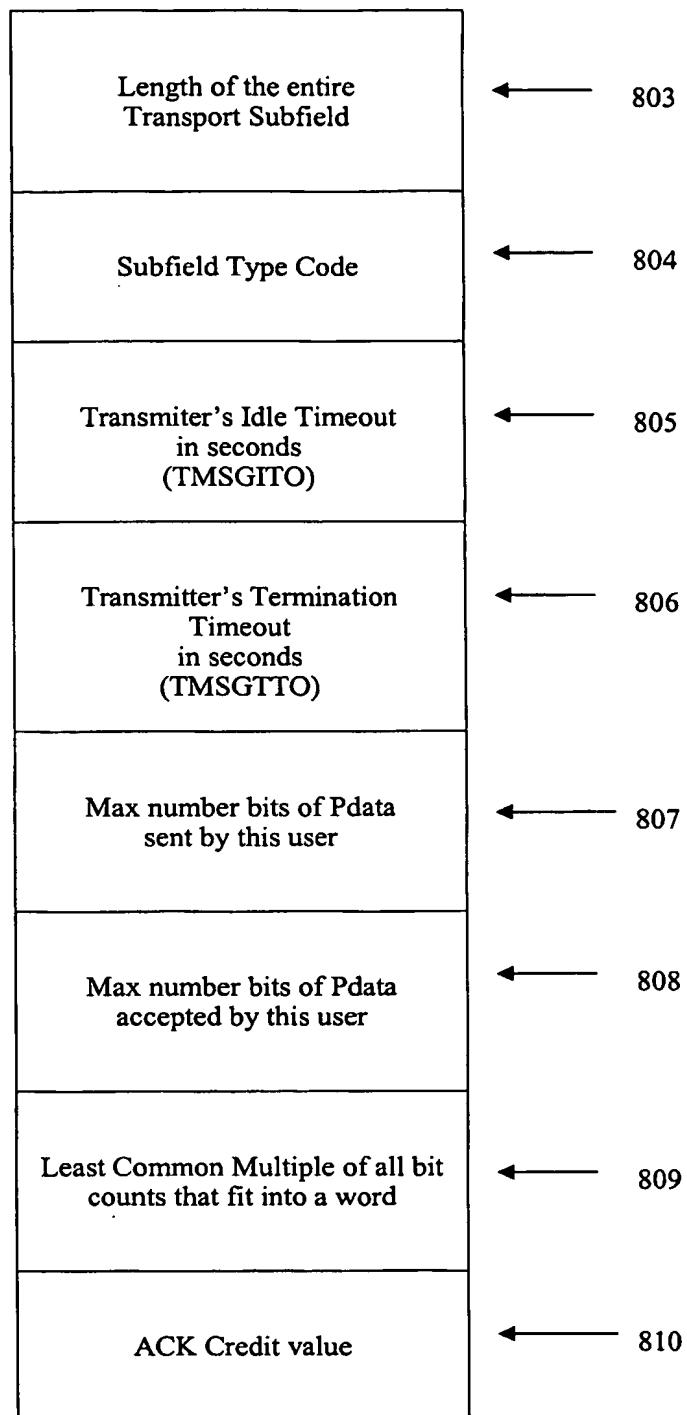
**Data Mover Physical Address Map Route****FIGURE 6E.**

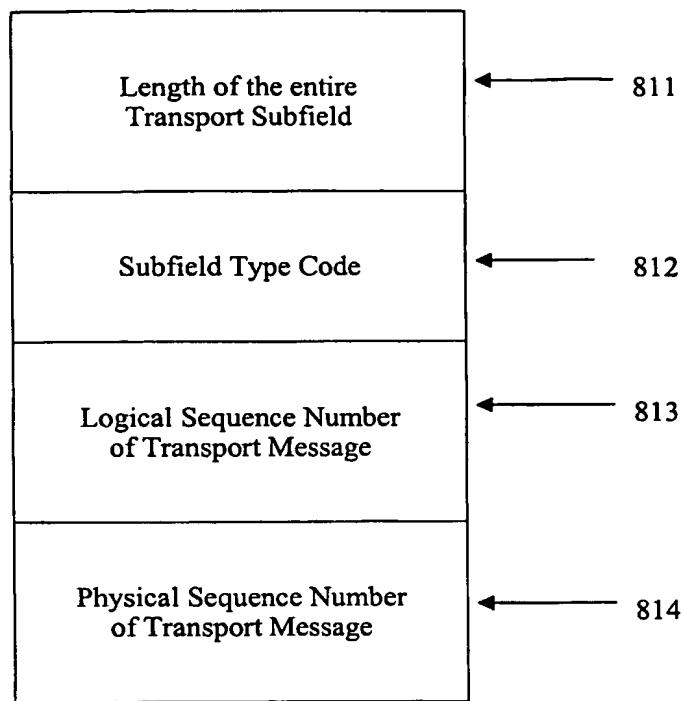


Data Mover Transport Protocol Base Field

FIGURE 7A.

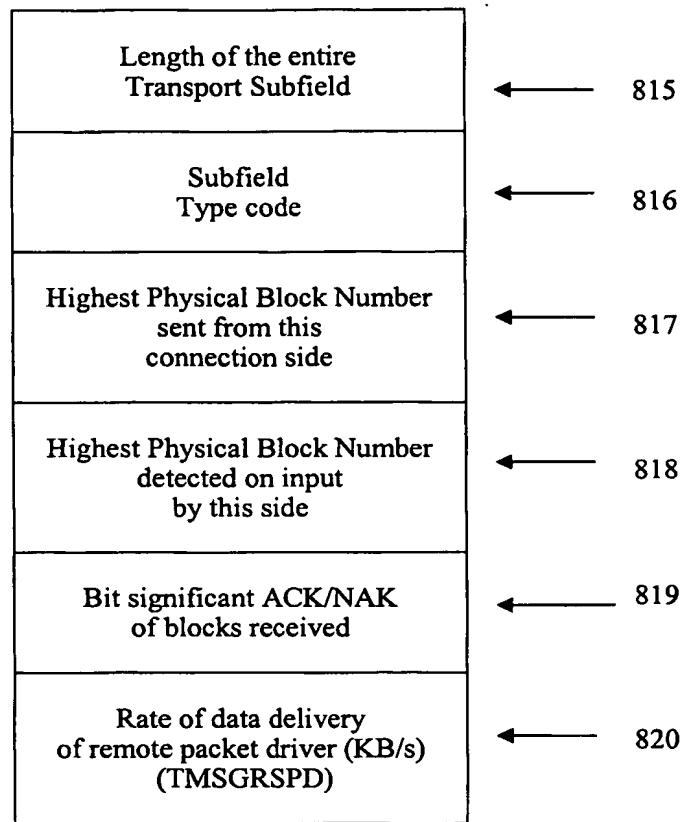
The Transport Protocol Base Field is followed by one or more Transport Protocol Subfields (Figures 7B through 7E).

**Data Mover Transport Protocol Connect Subfield****FIGURE 7B.**



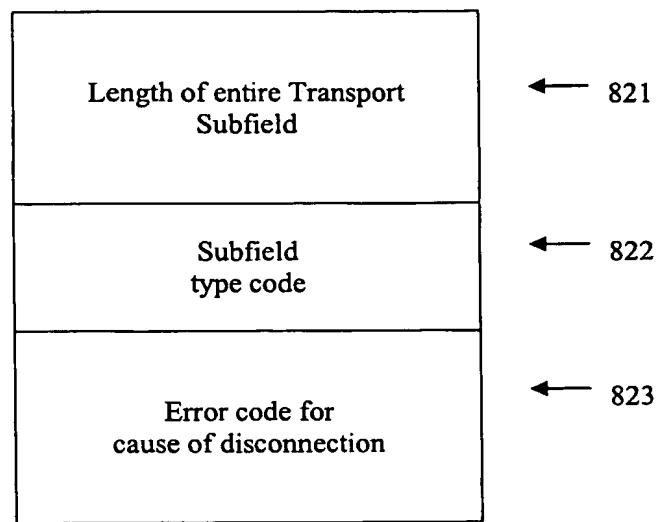
Data Mover Transport Protocol Data Subfield

FIGURE 7C.



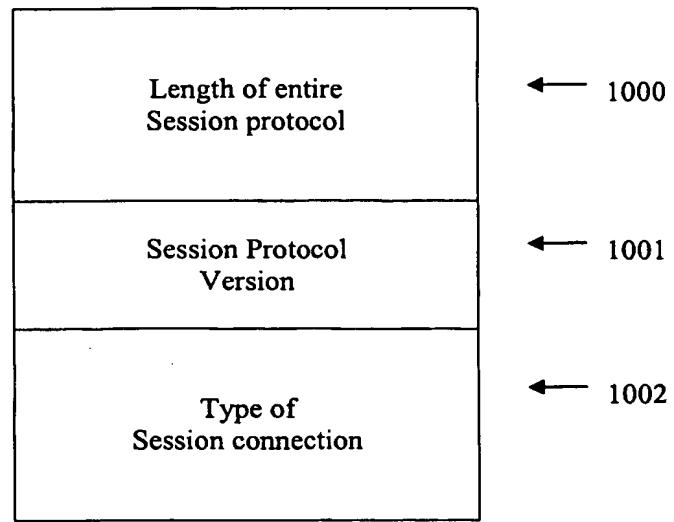
Data Mover Transport Protocol Acknowledgement Subfield

FIGURE 7D.



Data Mover Transport Protocol Disconnect Subfield

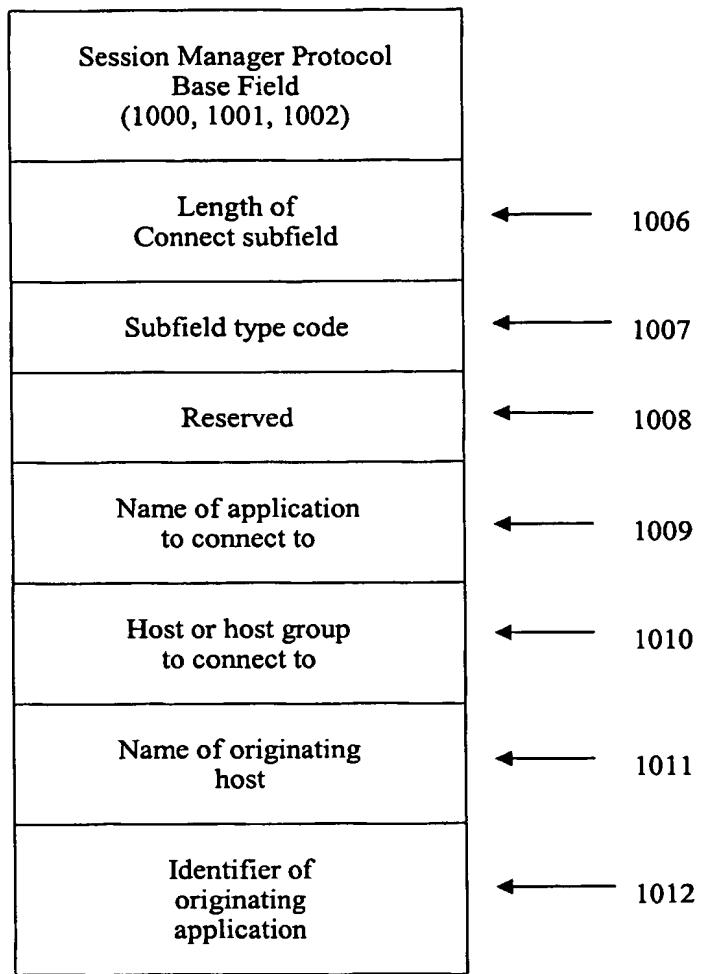
FIGURE 7E.



Data Mover Session Manager Protocol Base Field

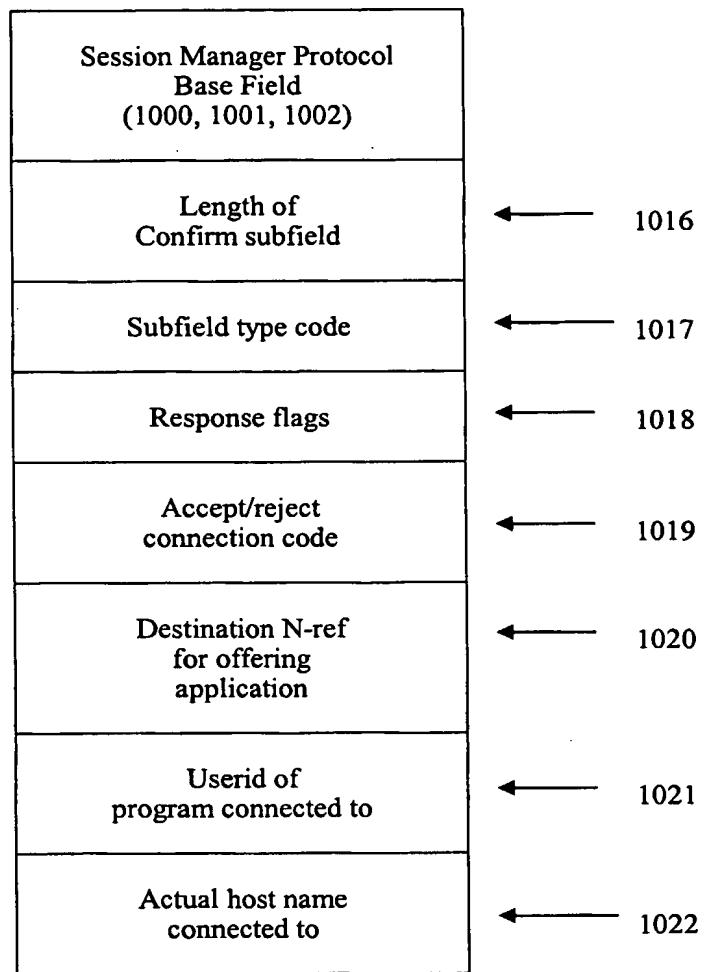
FIGURE 8A.

The Session Manager Protocol Base Field is followed by either the Session Manager Protocol Connect or Confirm Subfields (Figures 8B through 8C).



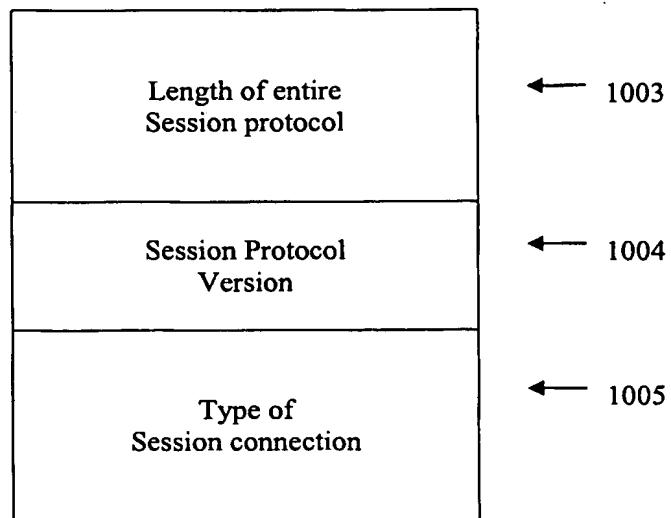
Data Mover Session Manager Protocol Connect Subfield

FIGURE 8B.

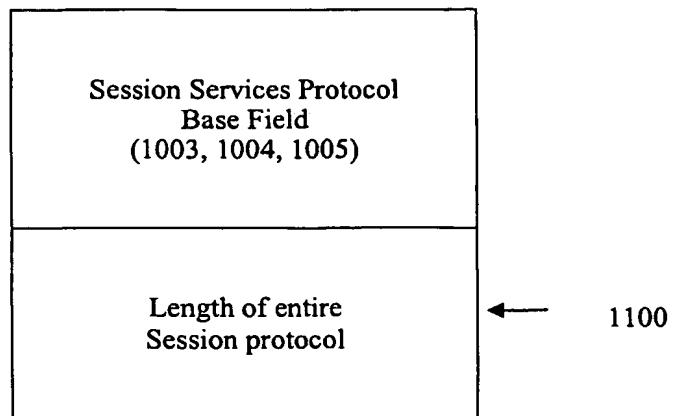


Data Mover Session Manager Protocol Confirm Subfield

FIGURE 8C.

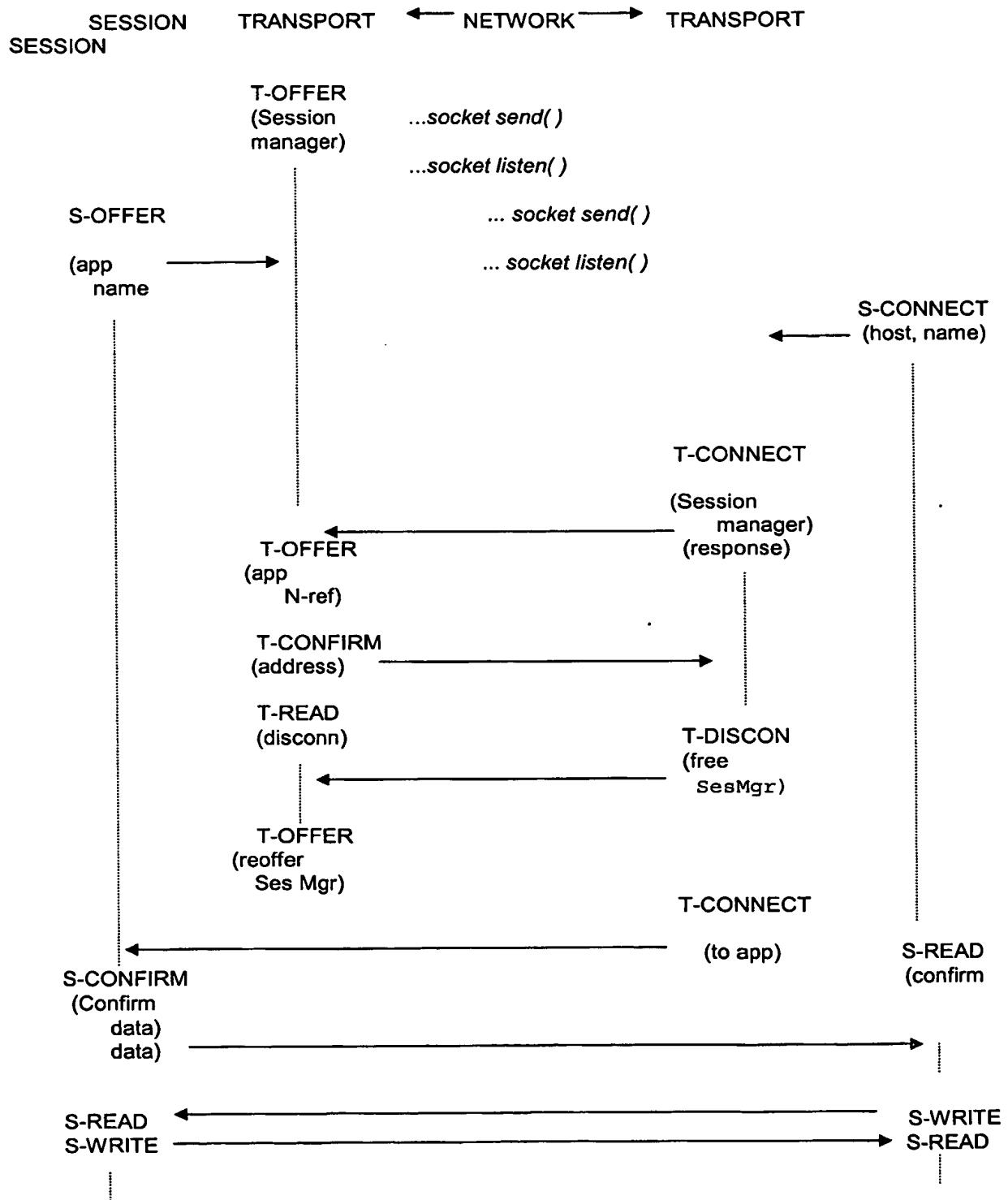
**Data Mover Session Services Protocol Base Field****FIGURE 8D.**

The Session Services Protocol Base Field is followed by the Session Services Protocol Null Subfield (Figure 8E).



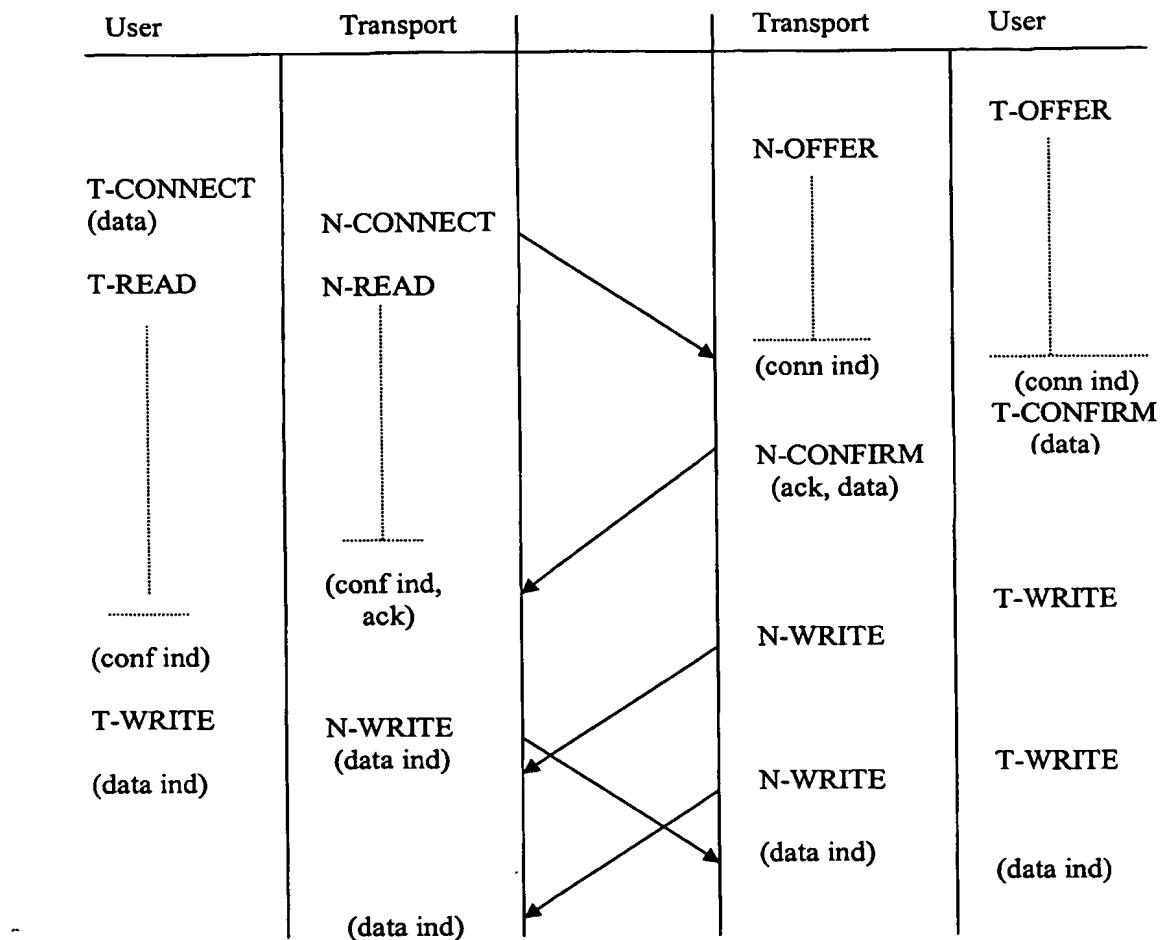
Data Mover Null Session Protocol Subfield

FIGURE 8E.



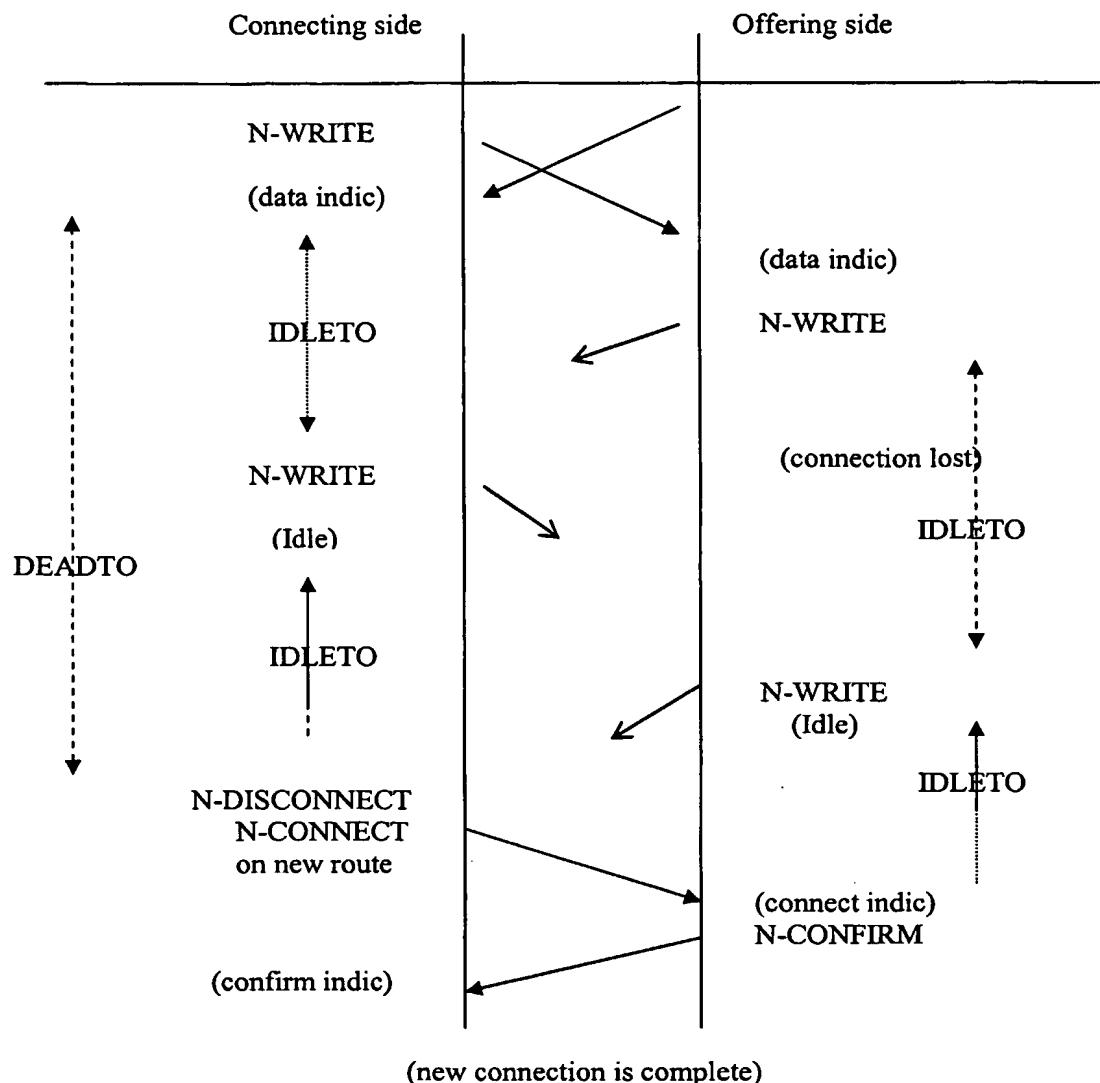
Data Mover Session Connection Sequence

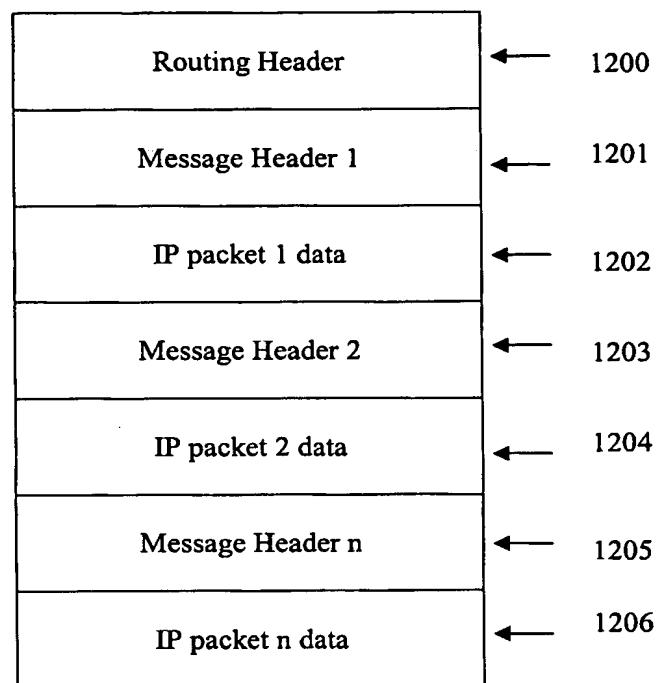
FIGURE 8F.



Data Mover Transport Connection Sequence

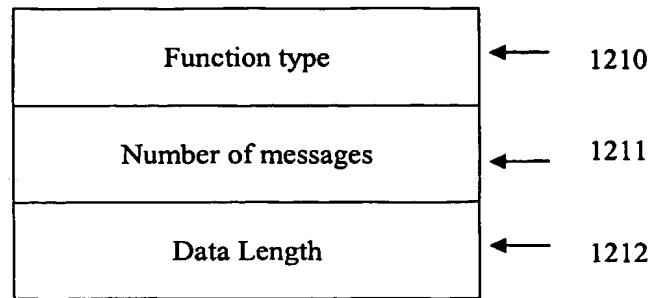
FIGURE 8G.

**Data Mover Transport Reconnection Sequence****FIGURE 8H.**



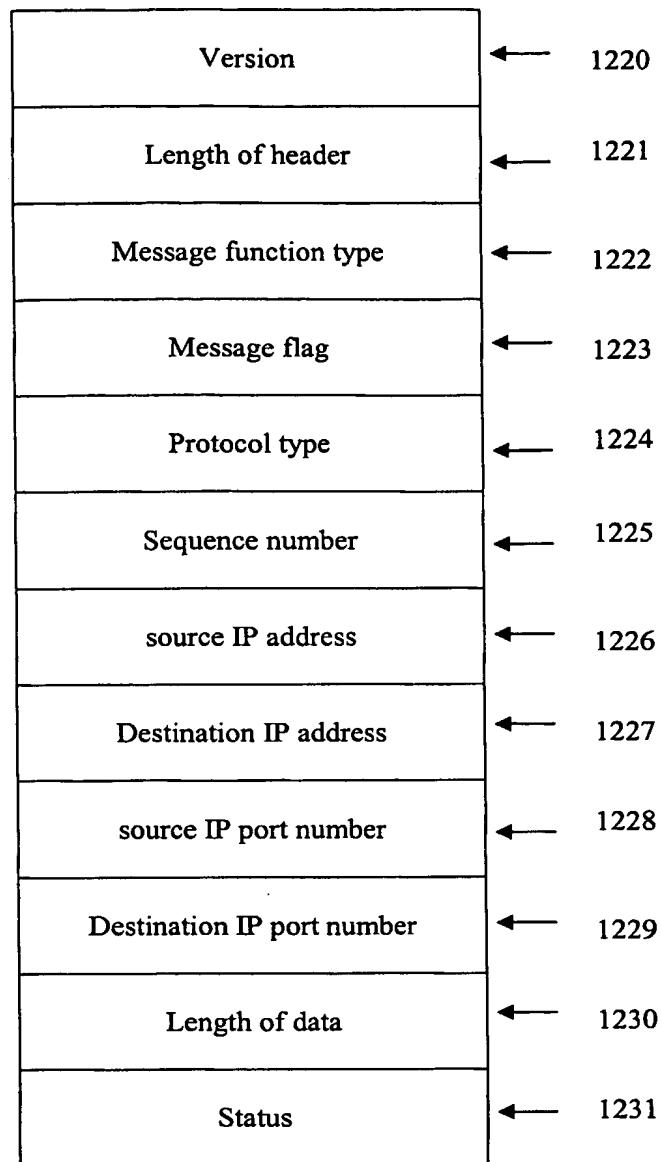
Packet Driver Protocol Data

FIGURE 9A.



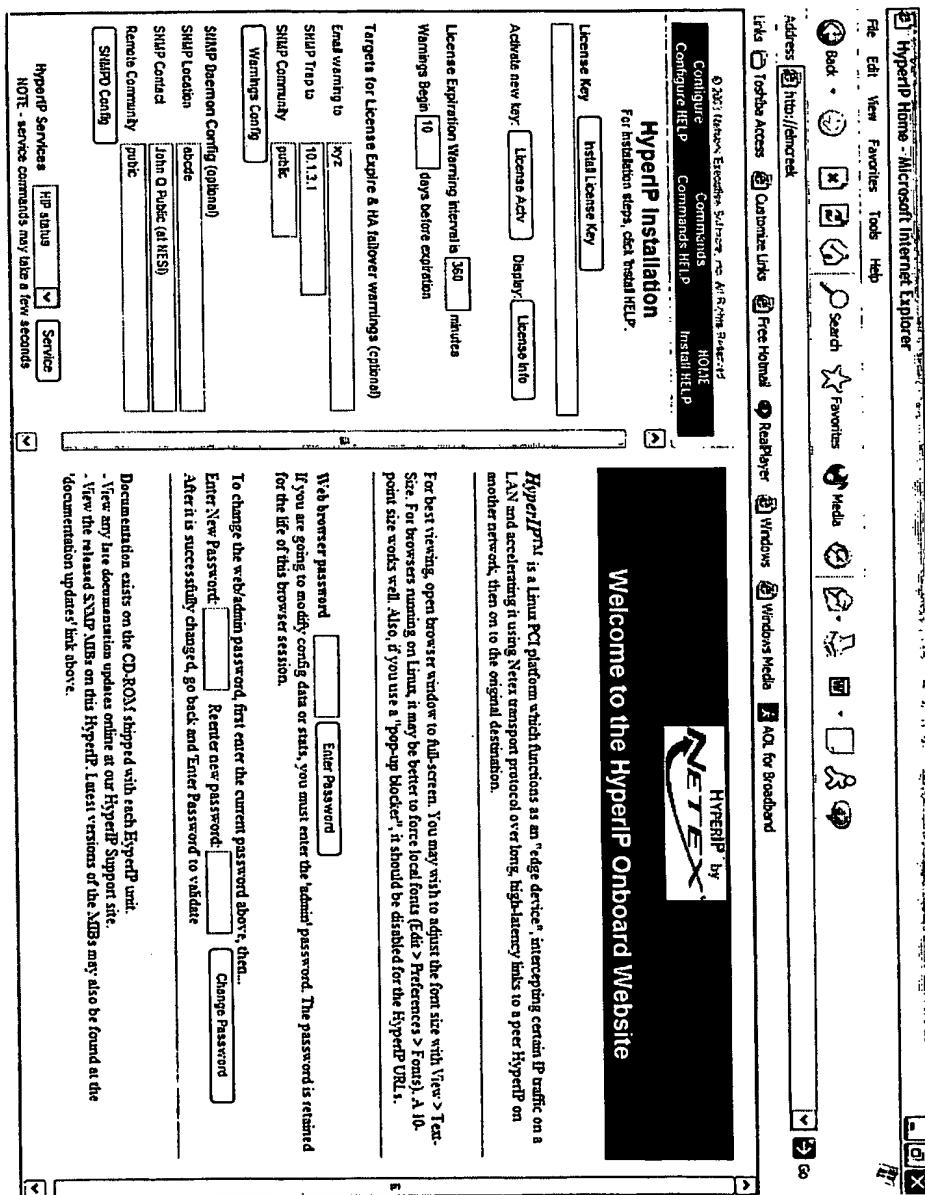
Packet Driver Protocol Data - Routing Header

FIGURE 9B.



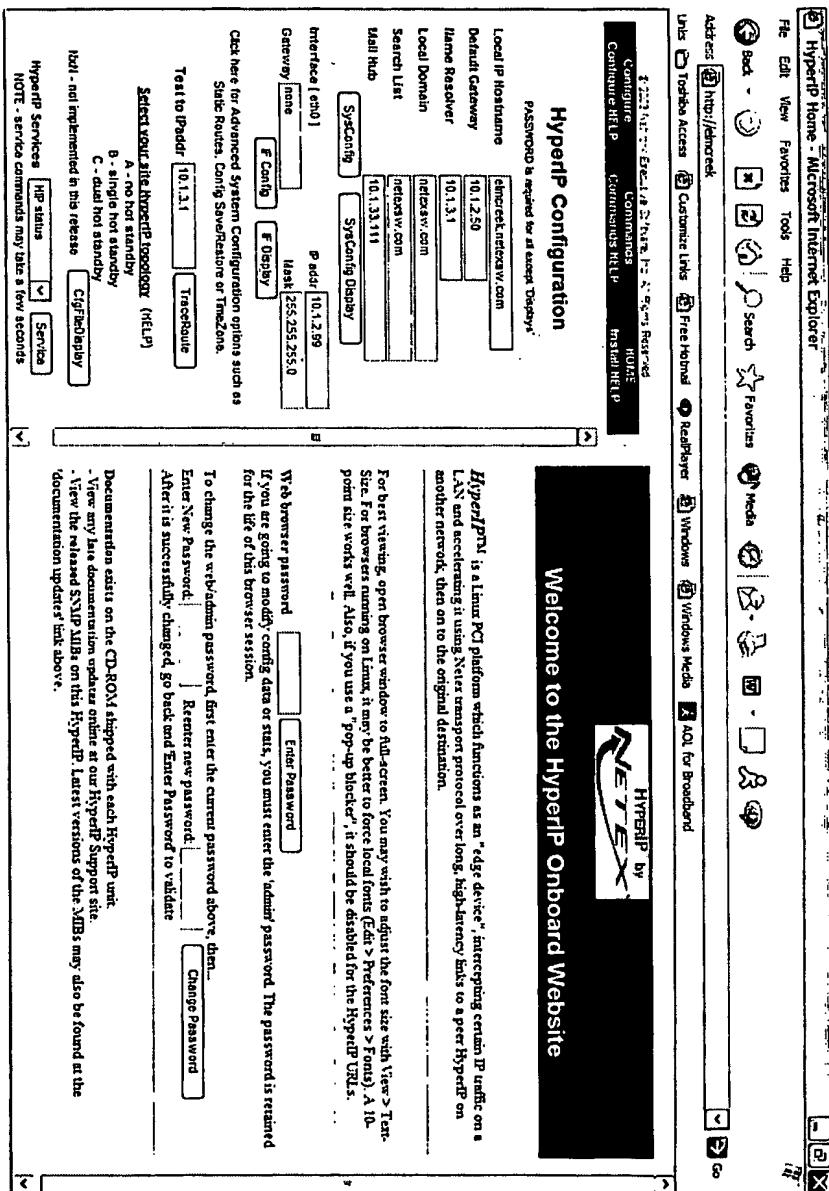
Packet Driver Protocol Data - Message Header

FIGURE 9C.



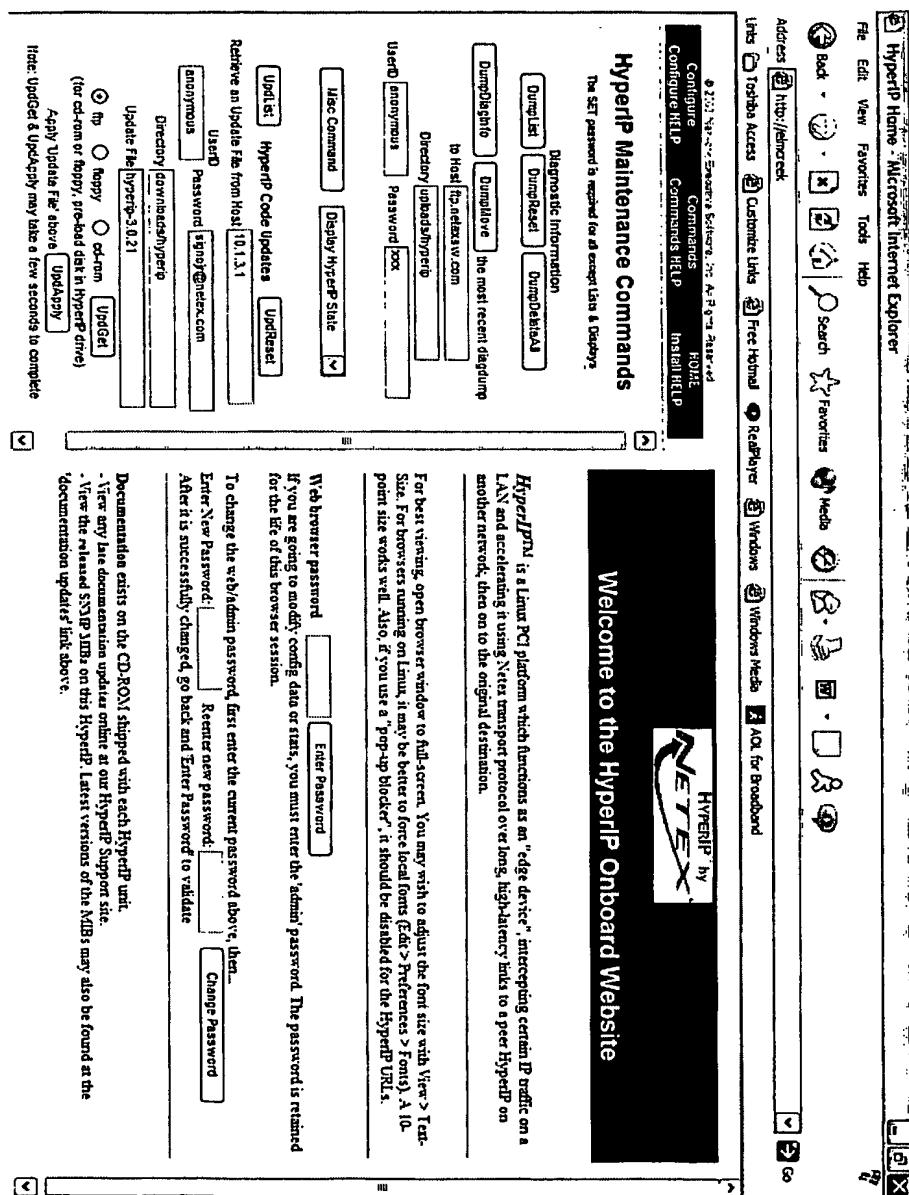
Sample TPO Installation Browser Screen

FIGURE 10.



Sample TPO Configuration Browser Screen

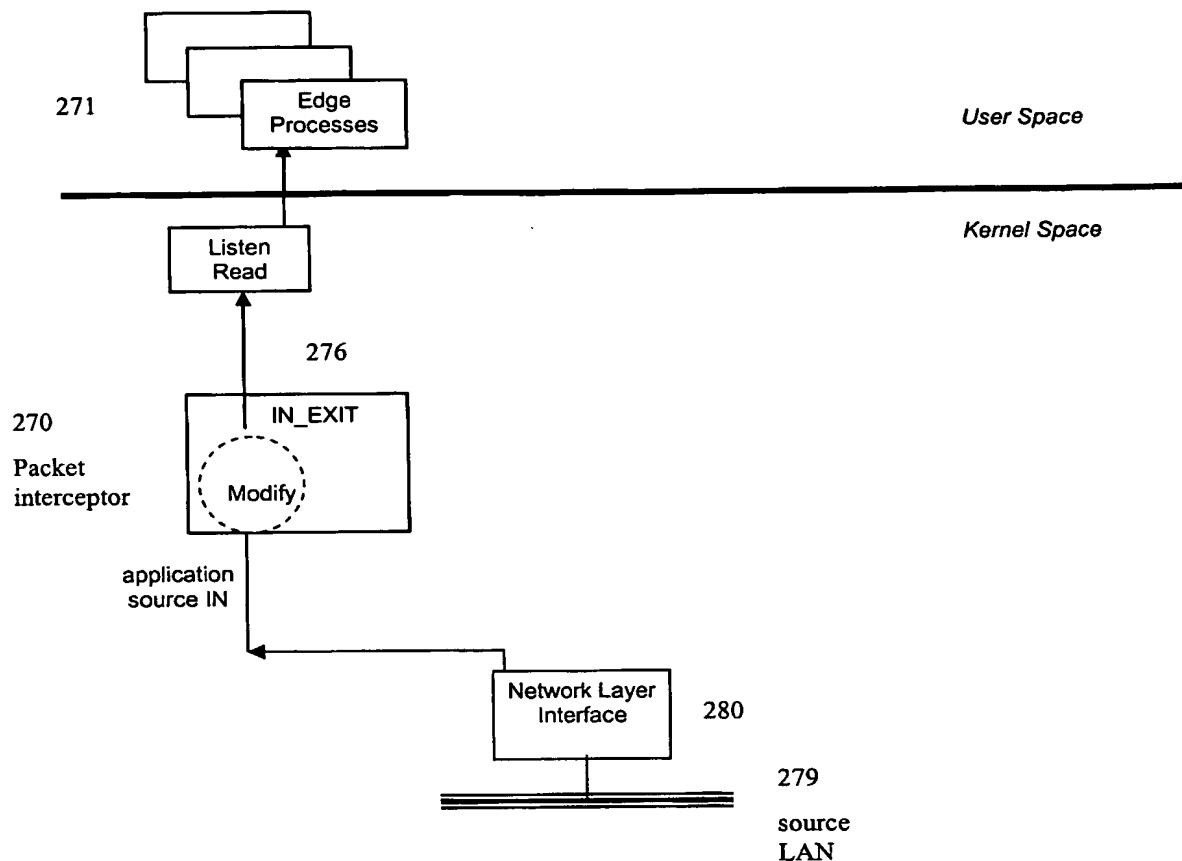
FIGURE 11.



Sample TPO Commands Browser Screen

FIGURE 12.

Source TPO packet flow

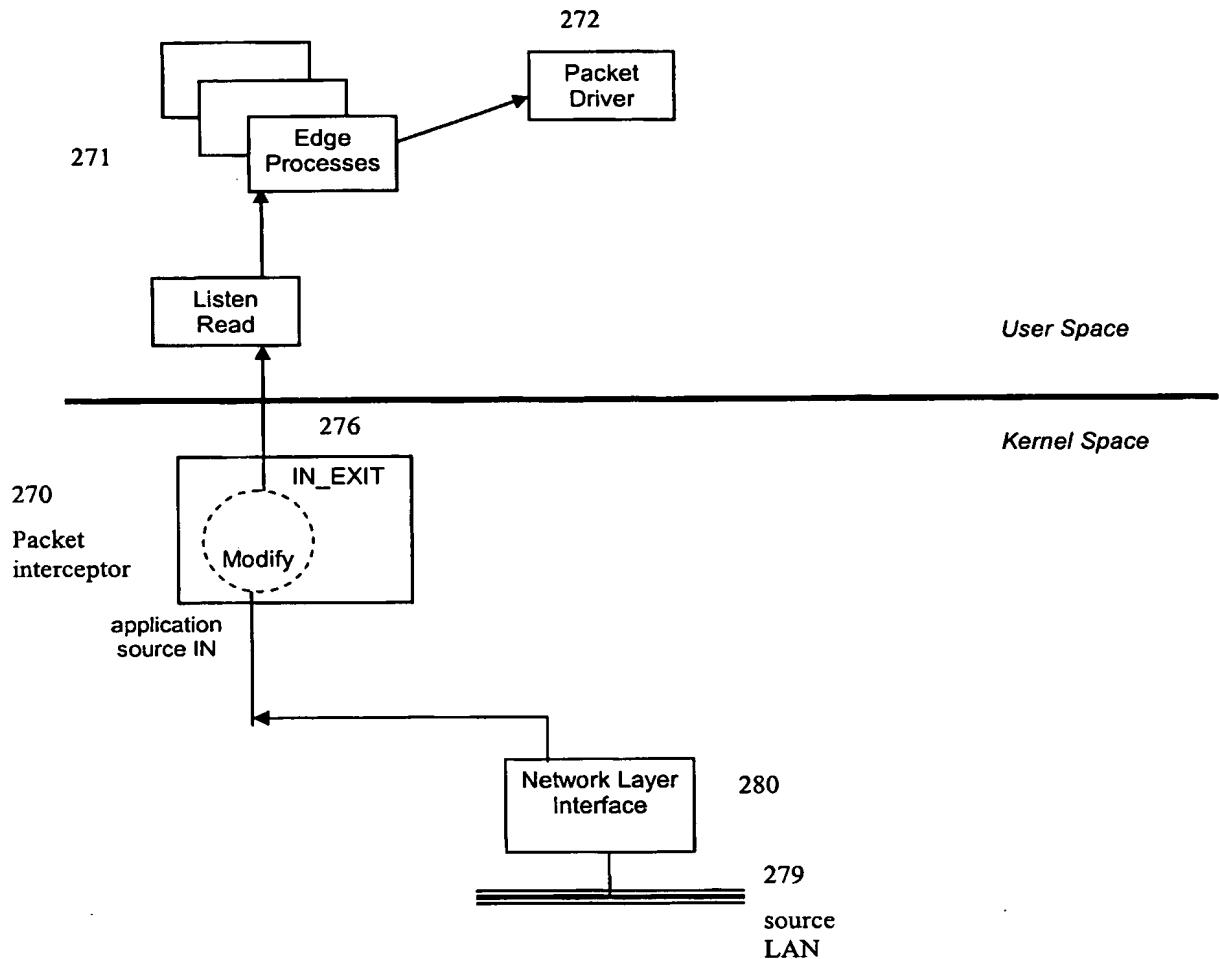


- Incoming source application IP packets on source LAN
- Packets flow through network layer into IN_EXIT
- Packet interceptor changes destination IP address and port to source TPO IP address and edge processor port
- Packets are read by edge processor

Source TPO Packet Flow – Application Source-in Packet Interceptor

Figure 13.

Source TPO packet flow

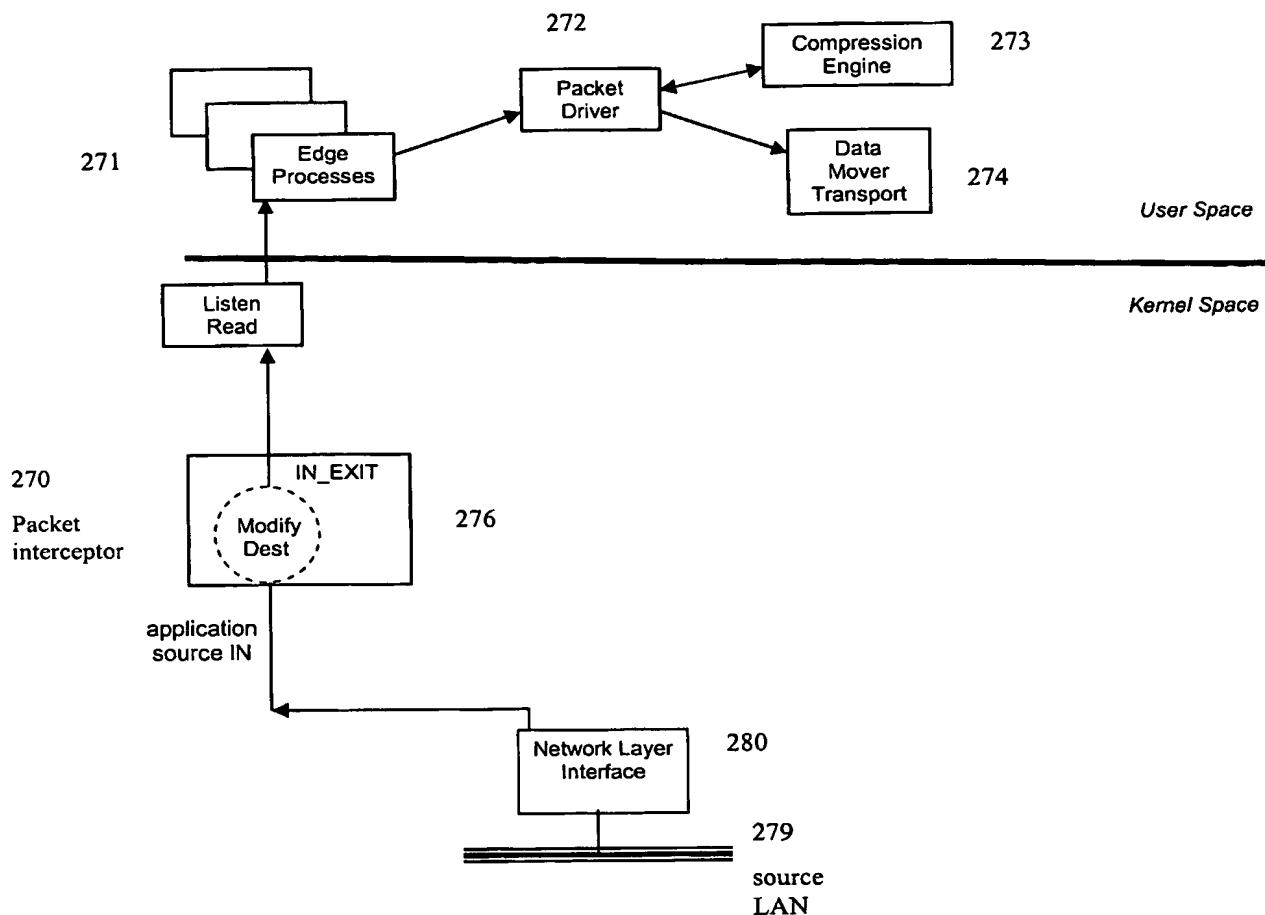


Packets are delivered from edge process to packet driver

Source TPO Packet Flow – Application Source-in Packet Delivery

Figure 14.

Source TPO packet flow

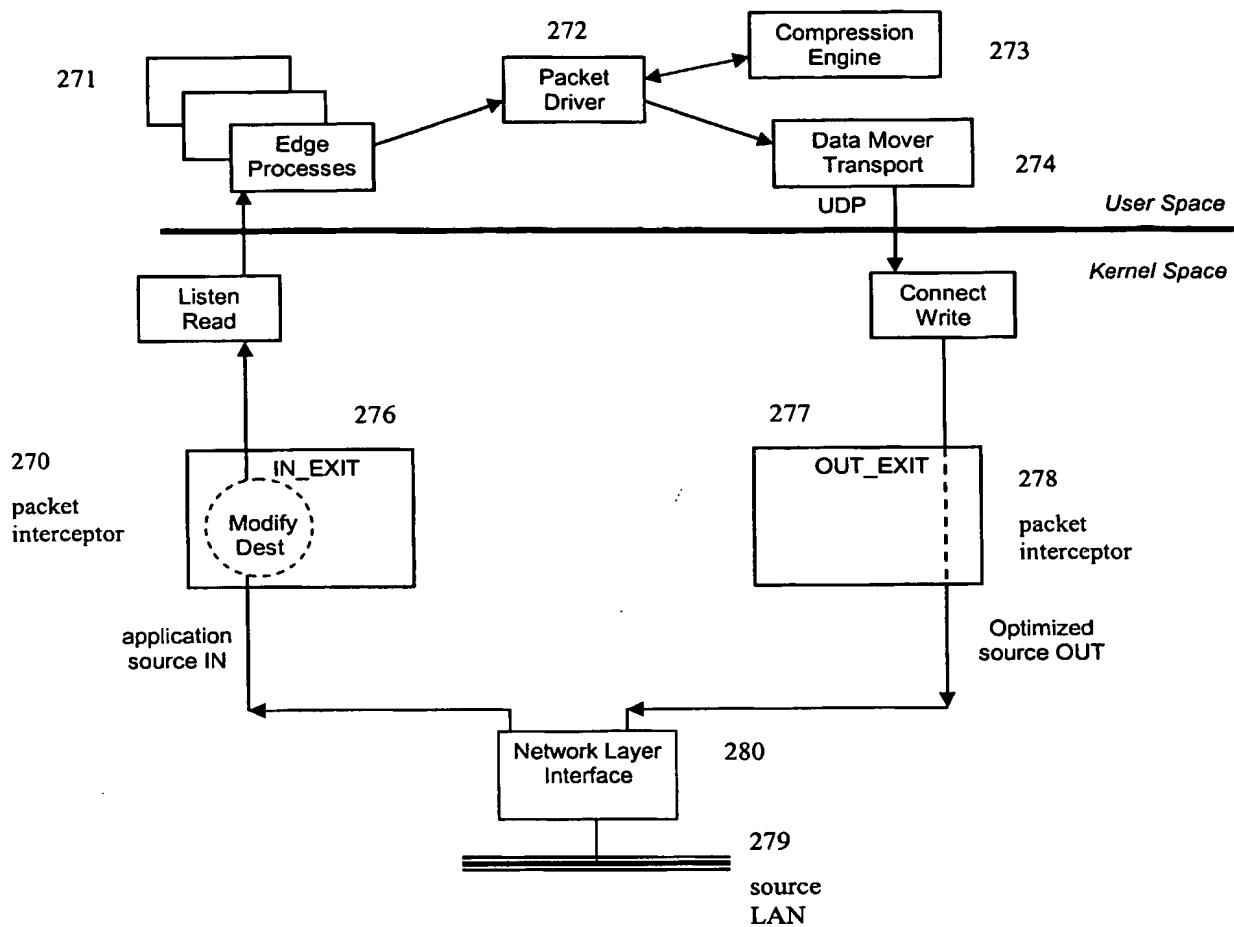


- Packet driver aggregates packets and passes them to compression engine**
- Compressed aggregated packets are returned to data mover**

Source TPO Packet Flow – Aggregated Packet Compression

Figure 15.

Source TPO packet flow

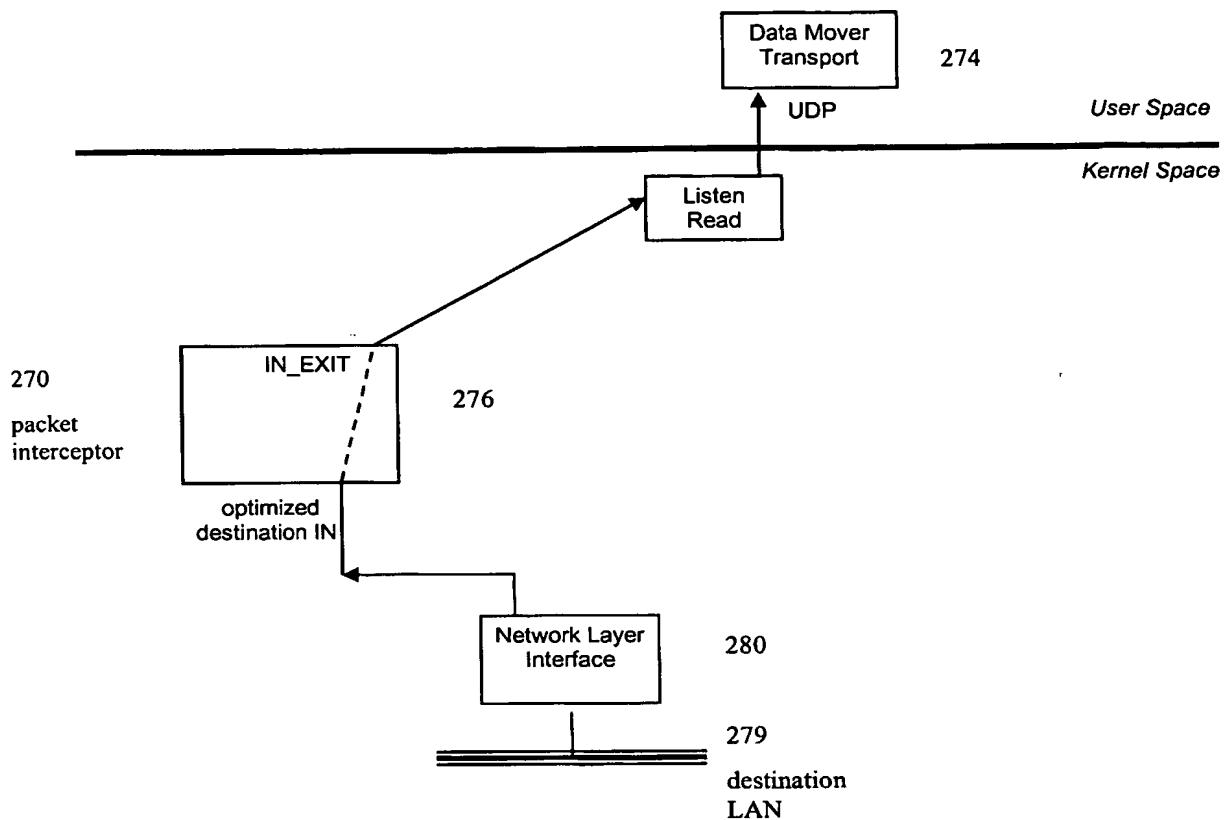


- Data mover drives UDP connection to peer TPO data mover
- Packets flow unchanged through OUT_EXIT and through network layer onto source LAN

Source TPO Packet Flow – Optimized Source-out

Figure 16.

Destination TPO packet flow

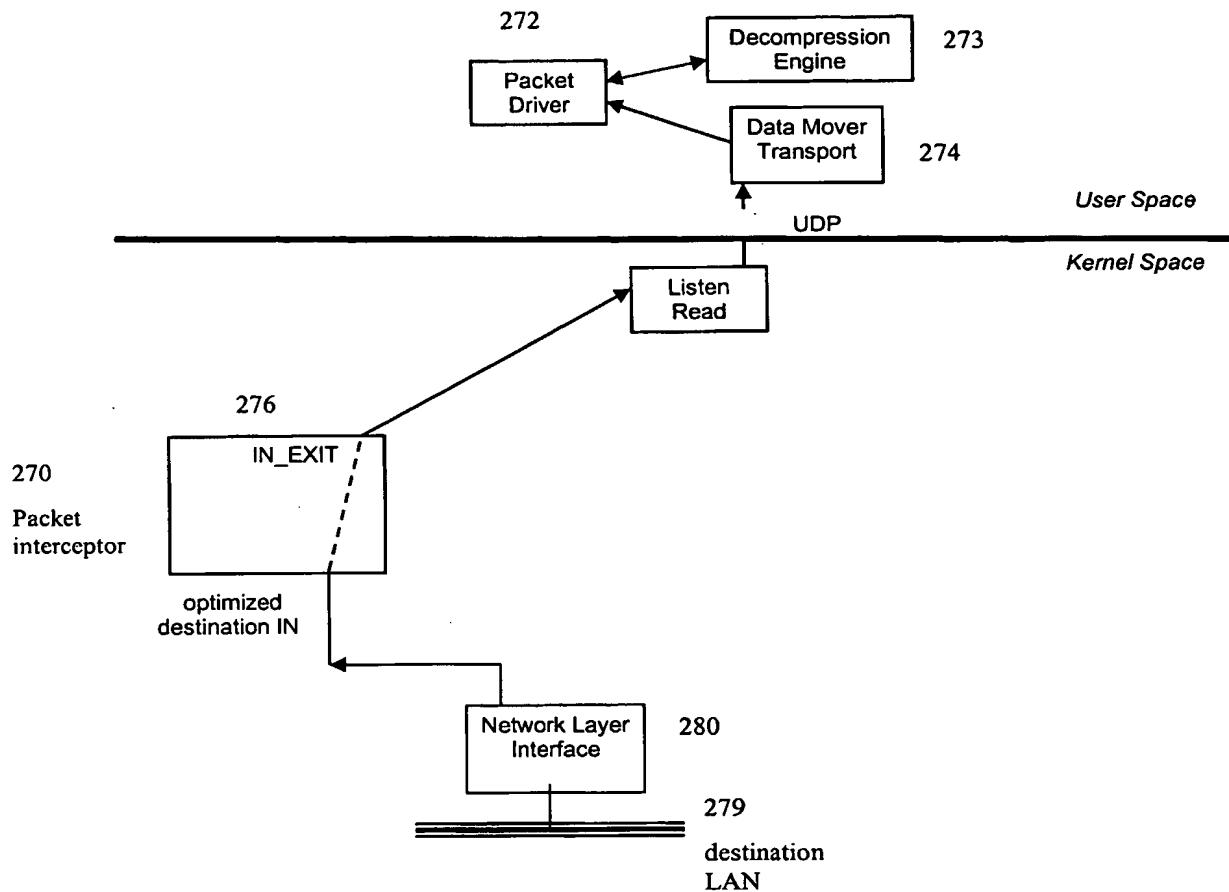


- Data mover drives UDP connection from peer TPO data mover
- Incoming TPO IP packets on destination LAN
- Packets flow through network layer into IN_EXIT
- Packets flow unchanged through IN_EXIT into data mover

Destination TPO Packet Flow – Optimized Destination-in

Figure 17.

Destination TPO packet flow

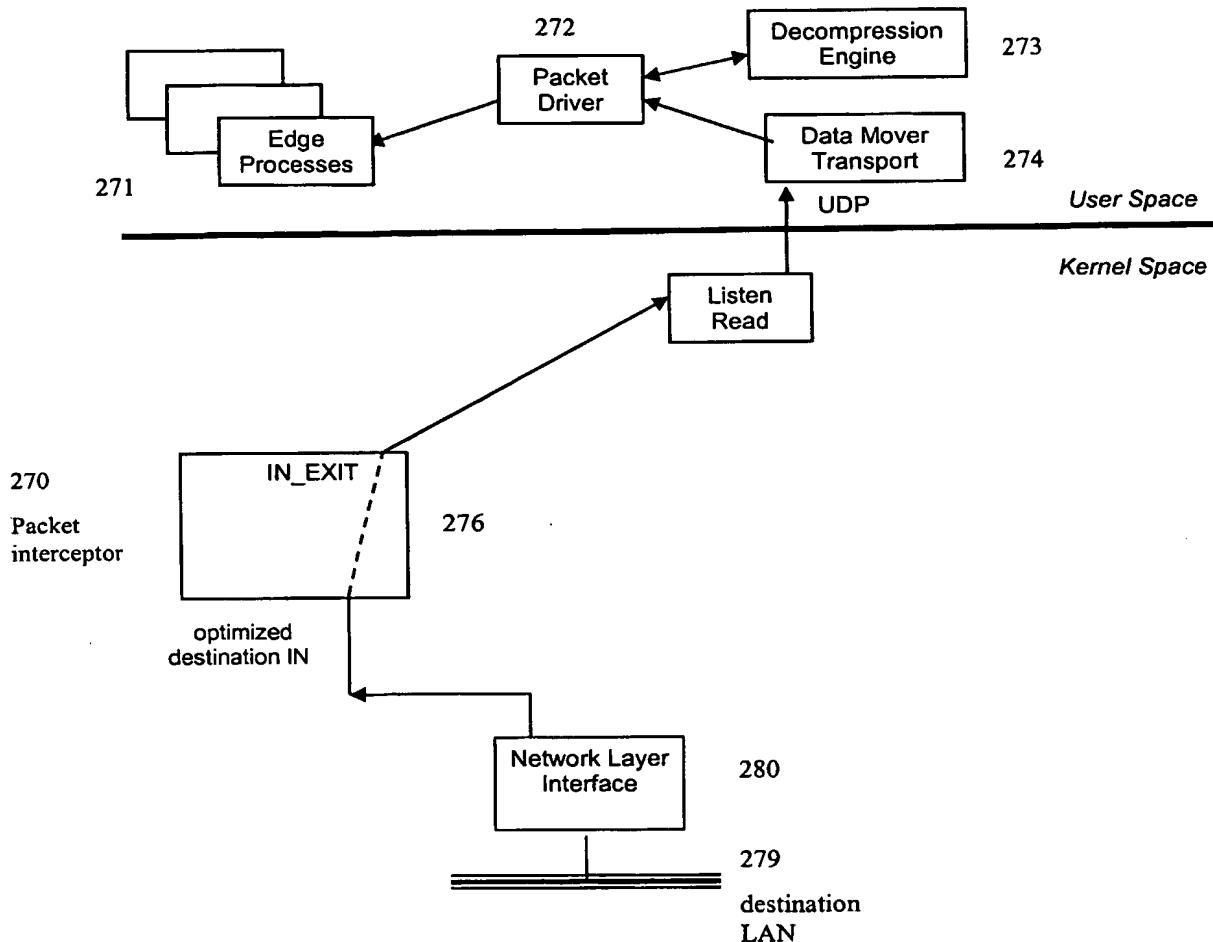


- Large compressed aggregated packets are passed to packet driver
- Large compressed aggregated packets are passed to decompression engine

Destination TPO Packet Flow – Packet Driver Decompression

Figure 18.

Destination TPO packet flow

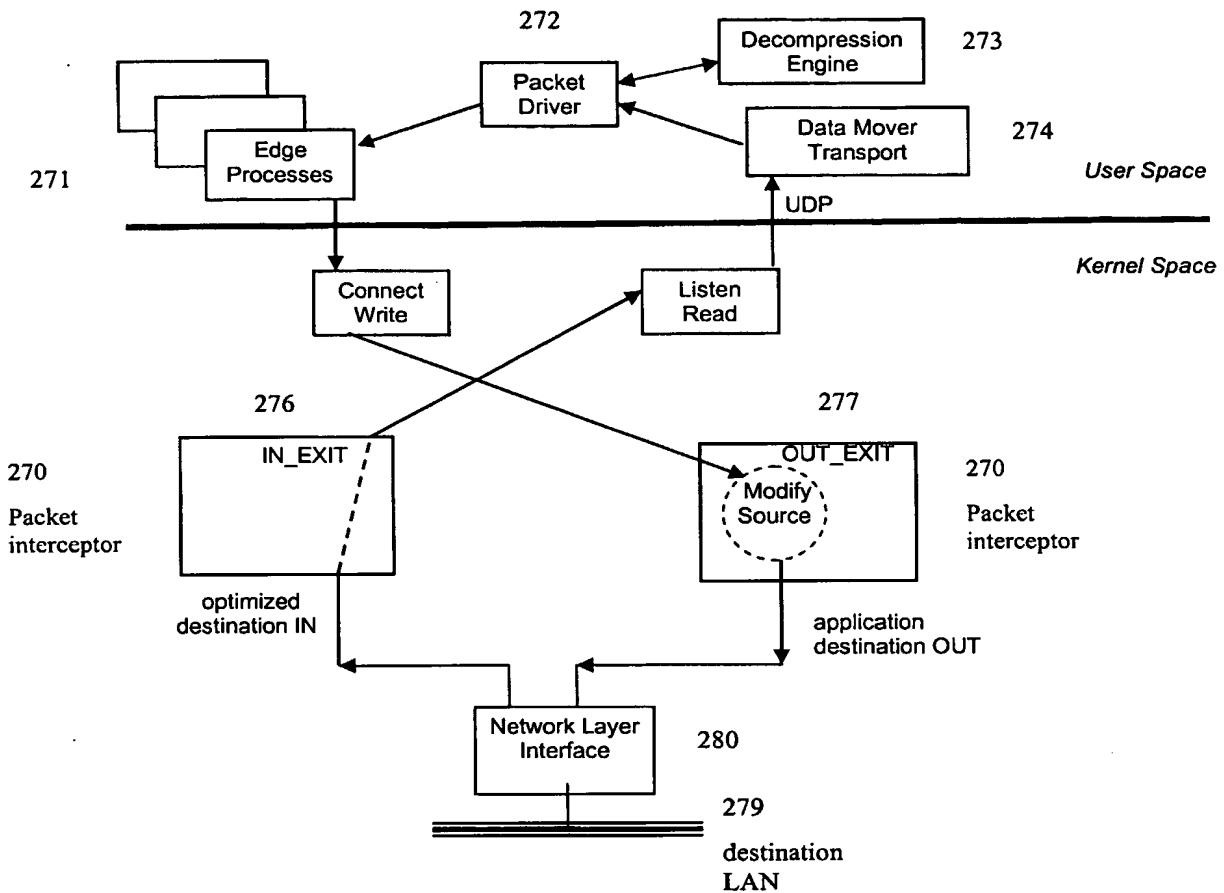


Packets are disaggregated to destination edge processors

Destination TPO Packet Flow – Disaggregation

Figure 19.

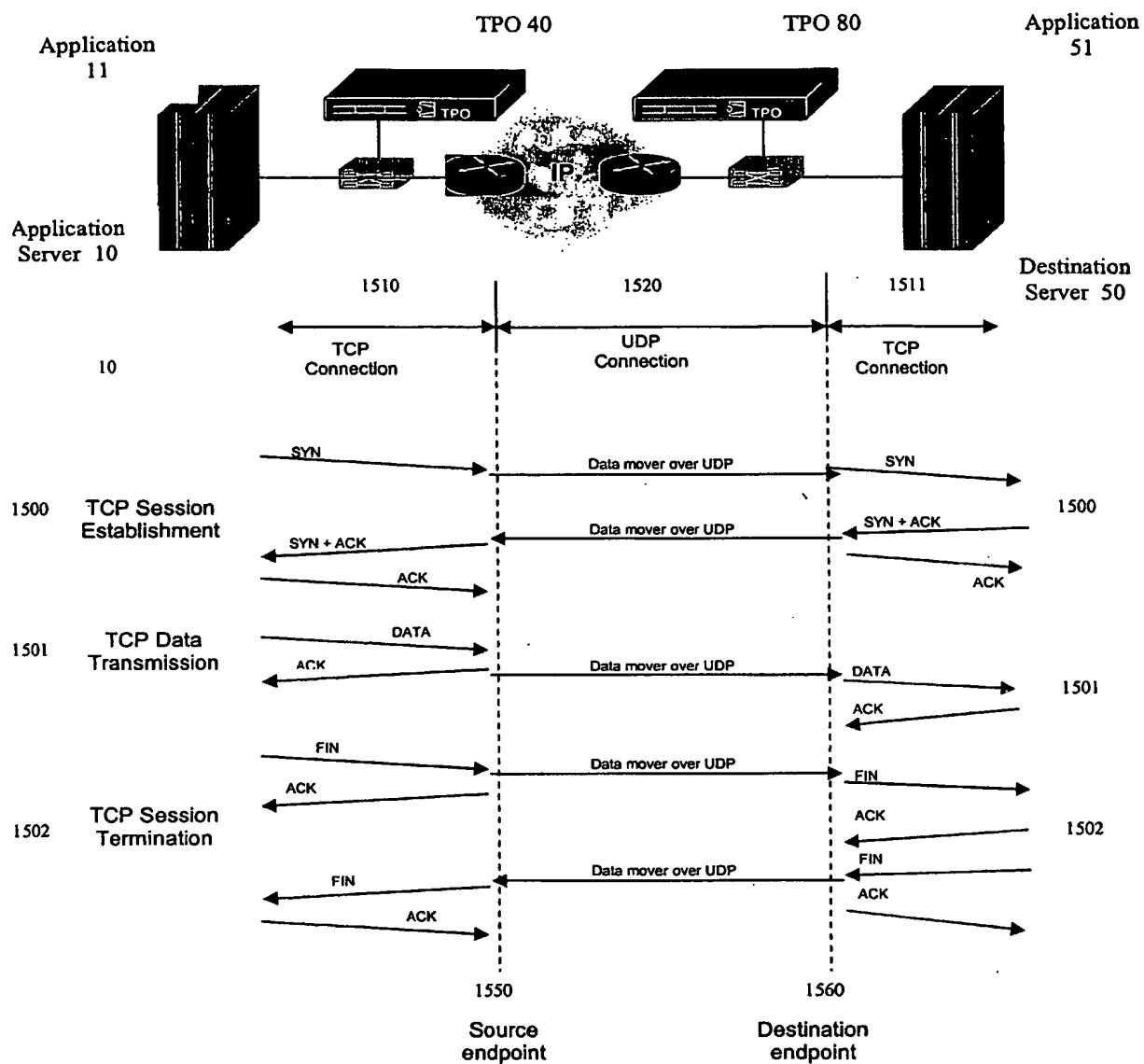
Destination TPO Packet Flow



- Packets flow into OUT_EXIT
- Source IP address and port is changed to originating server IP address and port
- Packets flow through the network layer onto the destination LAN

Destination TPO Packet Flow – Application Destination-out Packet Interceptor

Figure 20.



TCP/IP connection terminology

SYN – synchronize sequence numbers (connect)

ACK – acknowledgement

FIN – finished sending data (disconnect)

TPO TCP Connection Flow

Figure 21.